





Presented by  
Miss Elizabeth Marbury  
Jan. 1901



















To the Right Honourable

J O H N S T U A R T,

Earl of B U T E, &c.

The MÆCENAS of the present Age:

This F I R S T V O L U M E

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F L O R A L O N D I N E N S I S,

Begun under His Auspices,

And encouraged by His Liberality,

Is, with the sincerest Gratitude,

Inscribed, by

His most obliged,

Humble Servant,

W. C U R T I S.

2/22/35







A

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THE  
P R E F A C E.

ALTHOUGH the Author does not here mean to give a Preface at large, reserving that until the first volume, containing thirty-six numbers or two hundred and sixteen plants, shall be completed; yet he presumes it will be satisfactory to his subscribers, and the public, to be informed a little more fully of the nature and design of the work; as it will also give him an opportunity of answering some few objections that have been made to the plan of it.

The primary design of it then, is to facilitate a knowledge of the plants of our own country, and establish each species and variety on a firm basis: this the Author considers as the grand desideratum at present; this arduous task once accomplished, a way will be opened, and a foundation laid for numberless improvements in Medicine, Agriculture, &c.

To be enabled to do this, he means to take the greatest pains in the examination of those plants which he figures; to have them drawn from living specimens most expressive of the general habit or appearance of the plant as it grows wild; to place each plant, as much as is consistent, in the most pleasing point of view; and to be very particular in the delineation and description of the several parts of the flower and fruit, more especially where they characterize the plant.

And in order that he may obtain a more perfect knowledge of each plant; that he may see it in every stage of its growth, from the germination to the maturity of its seed; that he may compare and contrast the several species together; that he may make experiments to elucidate the nature of such as are obscure, or bring into more general use those which bid fair to be of advantage to the public; he is now cultivating each of them in a garden near the city, into which, by the kind assistance of his friends, he has already introduced, in the course of one year, about five hundred different species, including sixty of that most valuable tribe of plants the grasses.

Although the ascertaining and fixing of the plants will be his principle object, yet to make the work more useful to the public, as well as instructive and entertaining to the young botanist, his utmost endeavours will be used to lay before them whatever may be found *useful* in old botanic writers; and here they must not be surprized to find many of the numerous and imaginary virtues, which they attributed to almost every plant, purposely omitted: the discoveries made by modern authors, particularly relative to *Agriculture* and *Rural Oeconomy*, will be carefully attended to; as here seems to be a field just opening to view, from whence the public is likely to draw great and lasting advantages: and as a knowledge of the plants themselves is first necessary, and for want of which, indeed, the experimental farmer cannot effectually communicate his improvements, he finds himself peculiarly happy in contributing his share to the public good.

He is nevertheless sensible how inadequate his abilities, or indeed the abilities of any *one* person are, to render a work of this kind any ways complete; he therefore respectfully solicits the assistance of those, who wish well to the improvement of *English Botany* and *English Agriculture*: any information they shall be pleased to communicate, shall with those favours he has already received from divers of his friends, be gratefully acknowledged; and to induce them the more readily to communicate, he has subjoined a catalogue of those plants which (with many others) are already drawn, and which he intends shall form the next Fasciculus.

He is sorry it has not been in his power to publish his numbers so fast as was originally proposed: the delay has chiefly been occasioned by the loss of one of his principal artists, whose place is now supplied by two others equally eminent; so that the drawing and engraving, which before fell to the share of one person, being now divided betwixt two, he flatters himself he shall be able to publish a number once a month, or six weeks at farthest—he is however determined never to sacrifice the accuracy or utility of the work to hurry—on this principle he has been at the expence of having some of his plates engraven twice, and even three times over before he could venture to publish them. As the delay has originated from this source, he hopes none of his subscribers that have hitherto so generously contributed to the carrying on of the work, will withdraw that assistance, which alone can enable him to prosecute it with advantage to the public, credit to himself, and satisfaction to them.

It now remains to obviate some few objections which have been made to the plan of this work; and first, it has been suggested to the Author, that it would have been better received, if, instead of pursuing the present plan, he had published those plants only which were not figured in the *Flora Danica*, a work now carrying on in *Denmark* under the auspices of the *King*: but a few moments reflection, must he presumes be sufficient, to convince every unprejudiced person, how inadequate such a partial publication would have been to the making a knowledge of the plants of our country more general among ourselves—at best such a work could only answer the purpose of those few individuals who are in possession of that part of the *Flora Danica* already published; and as that is still going on, there is no doubt but the same plants would be published by both Authors; thus, the *Butomus umbellatus*, *Solanum Dulcamara*, and *Ervum hirsutum*, have been published in the *Flora Danica* since they were published in the *Flora Londinensis*, so that in the end even those persons would be obliged to purchase duplicates of the same plant.

Another reason why the Author could not adopt the plan proposed to him, was the limited scale of the *Flora Danica*, which contains the figures and names of the plants only, but gives us no account of their properties, nor teaches us how to distinguish the difficult plants from one another; the plates likewise being *small folio*, cannot admit many of the plants of their natural size, several of the grasses for instance, as the *Festuca fluitans* and *Aira aquatica* are obliged to be so cut and diminished as scarcely to be known. Many other objections might be urged without any view to depreciate a work which, though not so complete in some respects as could be wished, has exceeding great merit:—but these will probably be deemed sufficient.



## THE PREFACE.

The engraving of one plant only on each plate has been another objection which some have strongly urged, while others have in as warm terms testified their approbation of it. It may be proper to mention, that whether one or more had been engraven on a plate, the difference in the expence would have been trifling, and chiefly in the paper: as they now are, each is distinct, and every one is at liberty to place them according to that system which he most approves of.

The want of figures of reference to the plates, or letter-press, has been perhaps a more solid objection; but the Author hopes, that by the use of the indexes described below, this also will be obviated.

Having now, so far as he can recollect, answered every thing deserving the name of an objection, he willingly submits his performance to the judgment of a candid and impartial public; conscious of having used his best endeavours to be serviceable in his department.

### Uses of the Indexes, with Directions for Binding.

In the first Index the plants are placed according to the System of LINNÆUS, with which it is presumed, the greatest part of his subscribers are best acquainted. To find out any plant, even though the person be not acquainted with this mode of arrangement, look in the alphabetical English or Latin Index, and you will find the figures corresponding with them as placed in the book: if for example I want to find Ivy, I look for it in Index, No. 3, where the English names are alphabetically arranged, and find it to be the 16 plate, as there are 72 plates in each Fasciculus, I can readily guess within a few plates where it is placed: to those who have been accustomed to look out plants in LINNÆUS's works it will come easier; but if each subscriber will take the small pains of figuring the plates with a black lead pencil, any plant may then be immediately referred to. The Author could not hit on any mode more eligible, consistent with the irregular order in which he has been obliged to publish his plants.

With every third Fasciculus will be given a general and more copious Index, with a Glossary of the technical terms used in the work.

He would recommend to his subscribers, that each Fasciculus containing twelve numbers, be bound in boards, and not cut at the edges; the plates to be placed in the same order in which they occur in the first Index; taking care that each plate be put opposite to the letter-press belonging to it, with a leaf of thin paper betwixt them. If any should be at a loss to have them properly done, they will be pleased to send them to *Raham Reepe's*, Bookbinder, in Crooked Lane, near the Monument, who binds the Author's.

N. B. It may be necessary to caution the Bookbinder against beating the Numbers, as that operation would probably destroy the beauty of the plates.

## A

### Catalogue of those Plants which are *intended* to be Published in the next *Fasciculus*.

Anemone nemorosa	Geranium Columbinum	Plantago major
Adoxa moschatellina	Hyacinthus non scriptus	Plantago Coronopus
Ajuga reptans	Hyoscyamus niger	Plantago media
Aira præcox	Hypericum montanum	Poa rigida
Arabis thaliana	Hypericum quadrangulum	Poa compressa
Arenaria tenuifolia	Hypericum hirsutum	Polygonum amphibium
Achillæa Ptarmica	Ilex Aquifolium	Polytrichum commune
Briza media	Iris Pseudacorus	Ranunculus hirsutus
Corylus avellana	Lamium amplexicaule	Ranunculus Ficaria
Chærophyllyum sylvestre	Lyfimachia nemorum	Sagina erecta
Convolvulus arvensis	Lyfimachia nummularia	Saxifraga tridactylites
Circæa lutetiana	Lyfimachia tenella	Spergula nodosa
Chenopodium Vulvaria	Lyfimachia vulgaris	Sedum dasphyllum
Dipsacus sylvestris	Ligustrum vulgare	Sedum reflexum
Epilobium angustifolium	Lotus corniculata	Symphytum officinale
Epilobium ramosum	Myosurus minimus	Sparganium erectum
Erica cinerea	Malva officinalis	Tussilago farfara
Fumaria officinalis	Malva minor	Tormentilla erecta
Festuca duriuscula	Medicago lupulina	Thymus serpyllum
Festuca myuros	Osmunda spicant	Trifolium fragiferum
Glechoma hederacea	Oxalis acetosella	Valeriana dioica
Geranium molle	Orchis Morio	Veronica officinalis
Geranium rotundifolium	Ornithopus perpusillus	Veronica hederifolia
Geranium perenne	Plantago lanceolata	Veronica arvensis



# I N D E X I.

In which the Plants contained in the first Fasciculus are arranged according to the  
System of LINNÆUS.

<i>Latin Name.</i>	<i>Class and Order.</i>
1 Veronica agrestis	DIANDRIA Monogynia.
2 Veronica Chamædrys	
3 Veronica serpyllifolia	DIANDRIA Digynia.
4 Anthoxanthum odoratum	
5 Aira aquatica	TRIANDRIA Digynia.
6 Poa annua	
7 Festuca fluitans	
8 Bromus mollis	TETRANDRIA Monogynia.
9 Bromus sterilis	
10 Dipsacus pilosus	PENTANDRIA Monogynia.
11 Hottonia palustris	
12 Anagallis arvensis	
13 Convolvulus sepium	PENTANDRIA Digynia.
14 Solanum Dulcamara	
15 Lonicera Periclymenum	PENTANDRIA Trigynia.
16 Hedera Helix	
17 Conium maculatum	OCTANDRIA Monogynia.
18 Æthusa Cynapium	
19 Scandix Anthriscus	OCTANDRIA Digynia aut Trigynia.
20 Alfine media	
21 Erica tetralix	
22 Polygonum Bistorta	ENNEANDRIA Hexagynia.
23 Polygonum Persicaria	
24 Polygonum Pensylvanicum	DECANDRIA Digynia.
25 Polygonum var. caule maculato	
26 Polygonum Hydropiper	DECANDRIA Pentagynia.
27 Polygonum aviculare	
28 Polygonum minus	DECANDRIA Pentagynia.
29 Butomus umbellatus	
30 Saxifraga granulata	DODECANDRIA Trigynia.
31 Sedum album	
32 Sedum acre	ICOSANDRIA Polygynia.
33 Lychnis Flos Cuculi	
34 Cerasium aquaticum	POLYANDRIA Polygynia.
35 Euphorbia peplus	
36 Euphorbia Helioscopia	DIDYNAMIA Gymnospermia.
37 Potentilla reptans	
38 Ranunculus bulbosus	DIDYNAMIA Angiospermia.
39 Ranunculus acris	
40 Caltha palustris	TETRADYNAMIA Siliculosa.
41 Verbeina officinalis	
42 Lamium rubrum	MONADELPHIA Decandria.
43 Thymus acinos	
44 Euphrasia Odontites	DIADELPHIA Decandria.
45 Antirrhinum Cymbalaria	
46 Antirrhinum Elatine	POLYADELPHIA Polyandria.
47 Antirrhinum Linaria	
48 Digitalis purpurea	SYNGENESIA Polygamia Æqualis.
49 Draba verna	
50 Thlaspi Bursa Pastoris	SYNGENESIA Polygamia Superflua.
51 Geranium Cicutarium	
52 Geranium robertianum	SYNGENESIA Monogamia.
53 Orobis tuberosus	
54 Ervum hirsutum	GYNANDRIA Diandria.
55 Ervum tetraspermum	
56 Hypericum pulchrum	CRYPTOGAMIA Filices.
57 Hypericum perforatum	
58 Leontodon Taraxacum	CRYPTOGAMIA Musci.
59 Lapsana communis	
60 Erigeron acre	
61 Senecio vulgaris	
62 Bellis perennis	
63 Viola odorata	
64 Viola hirta	
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66 Ophrys Apifera	
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# VERONICA AGRESTIS. PROCUMBENT GARDEN-SPEEDWELL.

VERONICA *Linnaei. Gen. Pl.* DIANDRIA MONOGYNIA.

*Raii. Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

VERONICA *agrestis*, floribus solitariis, pedunculatis; foliis cordatis incisfis, petiolatis; caule procumbente.

VERONICA *agrestis*, floribus solitariis, foliis cordatis incisfis pedunculo brevioribus. *Linnaei Syst. Vegetab.* p. 56.

VERONICA floribus solitariis, foliis cordatis incisfis petiolatis. *Hudson Fl. Angl.* p. 6.

VERONICA caule procumbente; foliis petiolatis, ovatis, crenatis. *Haller. Hist. V.* 1. n. 594.

VERONICA *agrestis. Scopoli. Fl. Carn.* p. 21 DIAGN. Primiflora; foliis ovato-cordatis, crenatis, pedunculo brevioribus.

VERONICA floribus singularibus, in oblongis pediculis, Chamædryfolia. *Raii. Syn.* p. 279. Germander-Speedwell or Chickweed.

ALSINE foliis Triflaginis: *Gerard. emac.* 616. *Parkinson.* 764.

ALSINE Chamædryfolia flosculis pediculis oblongis infidentibus. *Baubin. Pin.* 250. *Oeder. Fl. Dan. Icon.* 449.

RADIX annua, fibrosa.

CAULES plures, primum erecti, tandem procumbentes, femipedales, subvillosi, teretes.

FOLIA alterna, ovato-cordata, serrata, petiolis brevibus infidentia, subhirsuta.

FLORES pedunculati, pedunculi axillares, longitudine fere foliorum, post florescentiam reflexi.

CALYX: PERIANTHIUM quadripartitum, laciniis lanceolatis, hirsutis, subtortuosis, *fig. 1.*

COROLLA monopetala, subrotata, calyce brevior, lævissimo fere tactu decidua; TUBUS brevissimus; LACINIÆ concavæ, subrotundæ, nunc penitus cœruleæ, nunc venis cœruleis striatæ, *fig. 2.*

STAMINA: FILAMENTA duo, alba, medio crassiora; ANTHERÆ cœruleiscentes, *fig. 3.*

PISTILLUM: GERMEN subcompressum, hirsutulum, basi nectario cinctum; STYLUS viridis, apice incrassatus, staminibus brevior; STIGMA album, capitatum, *fig. 4.*

PERICARPIUM CAPSULÆ *Veronicae serpyllifolia* similis, at major rotundiorque, *fig. 5.*

SEMINA pallide fusca, plerumque 6 in singulo loculamento, rugosa, hinc convexa, inde concava, *fig. 6.*

ROOT annual and fibrous.

STALKS several, first upright, then procumbent, about six inches in length, round and somewhat villous.

LEAVES alternate, of an oval-heart shape, serrated, placed on short foot-stalks and slightly hairy.

FLOWERS placed on foot-stalks, which proceed from the Axillæ of the leaves and are nearly of the same length; after the flowers are gone off turning back.

CALYX: a PERIANTHIUM divided into four laciniæ, which are lanceolate, hairy, and somewhat twisted, *fig. 1.*

COROLLA monopetalous, somewhat wheel-shaped and shorter than the Calyx, falling off on the least touch; the TUBE very short; the LACINIÆ concave, and roundish, sometimes wholly blue, sometimes striped with blue, *fig. 2.*

STAMINA: two FILAMENTS of a white colour and thickest in the middle; ANTHERÆ blueish, *fig. 3.*

PISTILLUM: GERMEN flattish, a little hairy and surrounded at bottom by a Nectarium; the STYLE green, thickest at top, and shorter than the Stamina; STIGMA roundish and white, *fig. 4.*

SEED-VESSEL a CAPSULE like that of the *Veronica serpyllifolia*, but larger and rounder, *fig. 5.*

SEEDS of a pale brown colour, generally 6 in each cavity, wrinkled, convex on one side and hollow on the other, *fig. 6.*

THERE are few Botanists but what are apt to confound this species of Veronica with the *Veronica arvensis*, and this appears to arise in some degree from their similarity to each other, but more perhaps from the similitude of their Latin, and the ambiguity of their English names. To prevent in some degree this confusion, I have taken the liberty of altering the English name of *Germander-Speedwell* or *Chickweed* to that of *procumbent garden Speedwell*, in order that the young Botanist may thereby more readily distinguish it from the species above mentioned. The stalks of the *Agrestis* are usually procumbent, and it is found generally in Gardens; whereas the *Arvensis* has an upright stalk, and with us is found most commonly on Walls. Besides such obviously distinguishing characters, these two plants differ considerably in many other respects. In the *Arvensis* the leaves are sessile, in *this* they are placed on footstalks; in the *Arvensis* the flowers are sessile, in *this species* they likewise, are placed on foot-stalks: and a difference still more remarkable, or at least more curious, exists, which seems not to have been attended to, viz. the largeness and roundness of the seed-vessels, and the particular structure of the seed. In most of the Veronics the seed-vessel is heart-shaped, and even in *this species* it retains somewhat of that form, although each of the Cavities is large and round; and if we examine the form of the seeds, we shall not wonder at this particular construction, for each seed instead of being small and flat as in other Veronics, is large, convex on one side, hollow on the other, and wholly different in its appearance. This peculiarity of structure, shows what inconstancy there is in the parts of fructification, and how improper it would be to found a Genus on the particular form of any one of them, since those which are in general the most uniform, are sometimes subject to such uncommon variations. The number of seeds in each Capsule is generally about 12, LINNÆUS says 8, SCOPOLI from 16 to 20.

This species grows frequently in Gardens, and flowers through most of the summer months. No particular virtues or uses are attributed to it.





*Veronica agrestis.*















*Veronica Chamædrys.*

*Flora Graeca*



# VERONICA CHAMÆDRYS. WILD GERMANDER.

VERONICA *Linnaei* Gen. Pl. DIANDRIA MONOGYNIA.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

VERONICA *Chamædris* racemis lateralibus, foliis ovatis rugosis dentatis sessilibus, caule bifariam piloso. *Lin.*  
*Syst. Vegetab.* p. 57. *Fl. Suecic.* p. 6.

VERONICA foliis cordatis subrotundis, hirsutis, nervosis, ex alis racemosa. *Haller, bist. n.* 536.

CHAMÆDRYS spuria minor rotundifolia. *Baubin, pin.* 249.

CHAMÆDRYS spuria sylvestris. *Parkinson, 107.*

CHAMÆDRYS sylvestris. *Gerard. emac.* 657. *Raii Syn.* 281. Wild Germander, *Hudson. Fl. Angl.* p. 5.  
*Scopoli. Fl. Carniol.* p. 15. (a) *Oeder Fl. Dan. icon.* 448.

RADIX perennis, repens, fibrosa.	ROOT perennial, creeping, and fibrous.
CAULES numerosi, decumbentes, teretes, duri, bifariam dense hirsuti, ramosi.	STALKS numerous, spreading, round, hard, hairy on each side, hairs very thick together, branched.
FOLIA cordato-ovata, opposita, nunc sessilia nunc petiolis brevibus infidentia, ferrata, venosa, hirsutula.	LEAVES of an heart shaped oval form, opposite, generally sessile, sometimes standing on short foot-stalks, ferrated, veiny, and slightly hirsute.
FLORES numerosi, ad 20, cærulei, petiolati: Petioli BRACTEA lanceolata suffulti; RACEMI longi, nunc oppositi nunc solitarii.	FLOWERS numerous, to 20, of a bright blue colour, forming long RACEMI (which are sometimes opposite, sometimes single), standing on foot-stalks, each of which is supported by a long-pointed BRACTEA.
CALYX PERIANTHIUM quadripartitum, persistens, foliolis lanceolatis, hirsutulis, fig. 1.	CALYX: a PERIANTHIUM divided into four segments, and continuing, the segments lanceolate and slightly hairy, fig. 1.
COROLLA monopetala, rotata, tubus brevissimus internè ad inferiorem partem villosus, LIMBO quadripartito, plano, laciniis subcordatis ad basin venis saturatioribus striatis, inferiore angustiore, fig. 2.	COROLLA monopetalous and wheel shaped, the TUBE very short, internally villous on the lowermost side, the LIMB flat, and divided into four segments, the segments somewhat heart-shaped, striated at bottom with veins of a purple colour, the lowermost segment narrower than the rest, fig. 2.
STAMINA: FILAMENTA duo apice incrassata, adscendentia, fig. 3. ANTHERÆ sagittata, fig. 4. POLLEN album, fig. 6.	STAMINA: two FILAMENTS, thickest at top, rising upward, fig. 3. the ANTHERÆ arrow-shaped, fig. 4. the POLLEN white.
PISTILLUM: GERMEN compressum glandula nectarifera cinctum: STYLUS declinatus, cærulescens, STIGMA obtusum, purpureum, fig. 5.	PISTILLUM: the GERMEN flattish, surrounded at bottom by a nectariferous gland, fig. 6. the STYLE hanging downwards, blueish; the STIGMA blunt, and purple, fig. 5.
PERICARPIUM: CAPSULA cordata, subcompressa, pallide fusca, calyce paulo brevior, ad marginem hirsutulum, fig. 7.	SEED-VESSEL: a CAPSULE, heart-shaped, flattish, of a light brown colour, a little shorter than the calyx, and slightly hairy at the edge, fig. 7.
SEMINA: plura, compressa, flavescentia, fig. 8.	SEEDS several, flat, of a yellowish brown colour, fig. 8.

The flowers of this Veronica are the largest and most specious of all the Plants of that Genus which grow wild in this Kingdom; many plants with less beauty are cultivated in our Gardens with the greatest care.

The leaves have been recommended by some writers as a substitute for Tea,

It bears a considerable resemblance to the *Veronica montana*, but differs essentially from that plant in the size of its Seed-vessels and the great number of flowers which it bears on its Racemi. See *Jacquin. Flor. Austriac. Vol. 2.*

When growing wild the leaves are usually sessile or placed on very short foot-stalks, when cultivated they become larger and the foot-stalks moderately long; a kind of monstrosity, which LINNÆUS has likewise observed, is very frequent on the leaves at the extremity of the stalk; which are collected into a very hairy white knob, on opening one of these I found two or three Insects in their Pupa or Chrysalis state, which most probably would have produced some species of Fly. This appearance is very common at the latter end of Summer.

This is an early blowing plant, and grows very common on dry banks, under hedges, and in orchards; it flowers in May and June.











# VERONICA SERPYLLIFOLIA. LITTLE SMOOTH SPEEDWELL, OR PAUL'S BETONY.

VERONICA *Linnaei Gen. Pl.* DIANDRIA MONOGYNIA.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

VERONICA *serpyllifolia* racemo terminali subspicato, foliis ovatis glabris, crenatis. *Linnaei Syst. Vegetab. p.* 56. *Fl. Suecic. p.* 6.

VERONICA caule recto, foliis ovatis, glabris, crenatis, petiolis ex alis unifloris, brevissimis. *Haller hist. n.* 546.

VERONICA pratensis serpyllifolia. *Bauhin Pin.* 247.

VERONICA pratensis minor. *Parkinson.* 551.

VERONICA minor. *Gerard emac.* 627.

VERONICA foemina quibusdam, aliis Betonica Pauli Serpyllifolia. *I. Bauhin. III.* 285.

VERONICA *Raii Syn. p.* 279. *n.* 3. *Hudson, Fl. Angl. p.* 4. *n.* 4 *Scopoli Fl. Carniol. V.1. p.* 12. *n.* 10  
*Oeder Fl. Dan. icon.* 492.

RADIX perennis, fibrosissima.

CAULES numerosi, ad basin repentes, dein erecti, simplices, palmares, teretes, læves.

FOLIA opposita, subconnata, subrotundo-ovata, *rariter et obsolete serrata, glabra, trinervia.*

FLORES albi, venis cæruleis picti, spicati, pedunculati, alterni, BRACTEÆ magnæ, ovatæ.

CALYX: PERIANTHIUM quadripartitum, laciniis ovato-acutis, glabris, *fig.* 1.

COROLLA monopetala, rotata; tubus brevissimus; laciniæ subcordatæ, inferiore angustiore; superiore laciniâ striis aut venis purpureis octo notata, lateralibus venis duabus, inferiore penitus alba, *fig.* 2.

STAMINA: FILAMENTA duo, alba, apice incrassata, *fig.* 5, 6. ANTHERÆ cærulescentes.

PISTILLUM: GERMEN subcompressum, STYLUS albus, apice paululum incrassatus, persistens. STIGMA capitatum, rubens, *fig.* 3.

NECTARIUM ad basin germinis, ut in Veronica Chamædrys.

PERICARPIUM: CAPSULA subcordata, fusca, pro magnitudine plantæ magna, *fig.* 4.

SEMINA plurima, 60 numeravi, e luteo-fusca, sub-ovata, *fig.* 8.

ROOT perennial, and very fibrous.

STALKS numerous, creeping at bottom, then growing upright, simple, three or four inches high, round and smooth.

LEAVES opposite, nearly uniting at bottom, of a roundish-oval form, here and there slightly serrated, smooth and trinervous.

FLOWERS white, coloured with blue veins or stripes, growing in spikes on foot-stalks alternately. FLORAL LEAVES large and oval.

CALYX: A PERIANTHIUM divided into four parts, the Segments of an oval pointed shape, and smooth, *fig.* 1.

COROLLA monopetalous, wheel-shaped, the tube very short, the segments somewhat heart-shaped, the lower one narrowest; the upper segment marked with eight purple veins or stripes, the side ones with two, and the lower one entirely white *fig.* 2.

STAMINA: two FILAMENTS, white and thickish towards the extremity; the ANTHERÆ blueish *fig.* 5, 6.

PISTILLUM: the GERMEN flattish, the STYLE white, a little thicker towards the extremity, and continuing. STIGMA roundish, and of a redish colour, *fig.* 3.

NECTARY at the bottom of the Germen as in the Veronica Chamædrys.

SEED-VESSEL: a CAPSULE somewhat heart-shaped, of a brown colour, and large in proportion to the plant, *fig.* 4.

SEEDS numerous, of a yellowish brown colour, and somewhat oval shape, *fig.* 8. We counted 60 in one capsule.

No particular virtues are attributed to this little plant by Writers.

It is one of the least of the Veronics, and occurs frequently in Meadows and Fields, and sometimes in Gardens, flowering in the Spring and Autumnal Months.

There is a great deal of delicacy in its blossoms, but they are too minute to make its beauty conspicuous enough for the Garden.

Its small, round, smooth and shining leaves readily distinguish it from the other Speedwells.





*Veronica scypholifolia.*











# ANTHOXANTHUM ODORATUM. SWEET-SCENTED OR VERNAL GRASS.

ANTHOXANTHUM *Linnaei Gen. Pl.* DIANDRIA DIGYNIA.

*Calyx.* Gluma bivalvis, uniflora. *Corolla.* Gluma bivalvis, acuminata. *Semen* unicum.

*Raii Synop. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

ANTHOXANTHUM *odoratum* spica oblonga, ovata, laxa.

ANTHOXANTHUM *odoratum* spica oblonga, ovata, flosculis subpedunculatis arista longioribus, *Linnaei Syst. Vegetab. p.* 67. *Fl. Suecic. No.* 33.

AVENA diantha, folliculo villosa, calycis glumis inæqualibus, altera de imo dorso, altera de summo aristata. *Haller, hist. helv. No.* 1491.

ANTHOXANTHUM *odoratum* *Scopoli Fl. Carniol. No.* 38. *Hudson Fl. Angl. p.* 10. *Stillington miscel. t.* 1. *Schreber Gram. tab.* 5. *p.* 49.

GRAMEN pratense spica flavescente. *Bauhin. Pin.* 3.

GRAMEN vernum spica brevi laxa, *Raii Syn.* 389. *Scheuch. hist.* 88.

RADIX perennis, fibrosa.

CULMI primum obliqui, demum erecti, dodrantes aut pedales.

FOLIA inter digitos attrita odorem Asperulæ odoratæ spargunt, plerumque pubescentia, sæpe leniter tortuosa, membranâ ad basin instructa, Vagina striata, lævis.

SPICÆ oblongo-ovatae, laxæ.

CALYX: GLUMA bivalvis, Valvulis inæqualibus, inferiore dimidio brevior, membranacea, acuta, superiore acuminata, nervis tribus viridibus extantibus, *fig.* 3, 2.

COROLLA: GLUMA bivalvis, valvulæ subæquales, membranaceæ, pilosæ aristatæ, fuscæ; altera Arista quæ demum geniculata fit, prope basin exurgit, altera prope apicem, *fig.* 4.

NECTARIUM: GLUMULÆ duæ, pellucidæ, nitidæ, ovatae, inæquales, germen includentes, *fig.* 5, 6.

STAMINA: FILAMENTA duo prælonga; ANTHERÆ oblongæ, purpureæ, utrinque furcatæ, *fig.* 5.

PISTILLUM: GERMEN minimum oblongo-ovatum; STYLI duo filiformes glumi longiores, versus apicem plumulosæ, *fig.* 7.

SEMEN unicum, Nectario fusco, nitido, inclusum, *fig.* 8.

ROOT perennial and fibrous.

STALKS at first growing obliquely, finally becoming upright, usually from 8 to 12 inches high.

LEAVES, if rubbed betwixt the fingers, smelling like Woodruff, generally pubescent and often curled, furnished with a membrane at bottom; the Sheath striated and smooth.

SPIKES of an oblong oval shape and smooth.

CALYX: a GLUME of two Valves, the Valves unequal, the lowermost shorter by one half, membranous and acute; the uppermost acuminate, with three strong nerves or ribs; *fig.* 3, 2.

COROLLA: a GLUME of two Valves, the Valves nearly equal, membranous, hairy, of a brown colour, and furnished with Arista, one of the Arista, which finally becomes bent, springs from the base of the Valve, the other almost at the top, *fig.* 4.

NECTARIUM: two small, pellucid, shining, oval, unequal Glumes or Valves inclosing the Germen, *fig.* 5, 6.

STAMINA: two FILAMENTS very long; ANTHERÆ long, purple, forked at each end, *fig.* 5.

PISTILLUM: GERMEN very small, of an oblong oval shape; STYLES two, slender, longer than the valves, and towards the top a little feathered, *fig.* 7.

SEED single, inclosed within its brown, shining Nectarium, *fig.* 8.

THE *Anthoxanthum* is distinguished from the other Grasses by a very singular circumstance, viz. that of having only two Stamina, *fig.* 1, hence it is placed by LINNÆUS among the *Diandrous* plants, and separated from all the other Grasses; this peculiarity, although it occasions a separation which does violence as it were to Nature, yet it serves in a very striking manner to discriminate this Genus from a numerous and difficult tribe of plants: exclusive of this singularity, it differs also very essentially in the other parts of its fructification; each of the Spiculæ contains in common with many other grasses, only one flower, *fig.* 1: one of the *Glumæ Calycinae*, or valves of the Calyx, is small and membranous, *fig.* 3; the other is large, and incloses, or wraps up in it, as it were, the whole of the fructification, *fig.* 2; these glumes, so far as I have observed, do not open and expand themselves in the manner observable in the *Avena*'s, and many other grasses, were they separate quite wide, and expose their little feathery Styles; but the Stamina and Pistilla appear to push themselves out, the glumes remaining closed, *fig.* 1. The *Glumæ Corollaceæ* are very dissimilar to those of most other grasses, being remarkably hairy, and having each of them an Arista, the longest of which springs from near the base of the glume, is at first straight, but as the seed becomes ripe, the top of it is generally bent horizontally inward; the other Arista arises from near the top of the opposite Glume or Valve, *fig.* 4. The *Glumulæ Nectarii* or little Glumes of the Nectarium, differ no less in their structure, being composed of two little oval shining Valves, one of which is smaller than the other; these closely embrace the Germen, and cannot be seen but with great difficulty, unless they are observed just at the time that the Antheræ are protruding from betwixt them, when they are very distinct, *fig.* 6; as soon as the Antheræ are excluded, they again close on the Germen, and continue to form a coat to the seed which does not separate, *fig.* 5, 8.

The Farmer, or those who have not been accustomed to examine plants minutely, may readily distinguish this grass by its smell; if the leaves are rubbed betwixt the fingers, they impart a grateful odour like that of Woodruff,—hence I have called it sweet-scented.

Like the *Trifolium repens* or Dutch Clover, and many others of our most useful plants, this Grass grows on almost every kind of soil, from the poorest and driest, to the most fertile and boggy; it seems however in general to prefer a soil that is moderately dry. It is subject, like all other plants, to vary in its size, according to the goodness of the ground it grows in: the leaves have a particular tendency to be curled if the soil be rich; and when it grows in woods, the spikes are often much slenderer and looser.

It has been called by some Authors *Vernal* or *Spring Grass*, from its coming into ear earlier than most others; towards the middle of May it is in full bloom, and about the middle of June the seed is ripe—and may be easily separated on rubbing.

There is great reason to believe, that this is one of our Grasses which might be cultivated with considerable advantage: in the meadows about town it grows to a considerable height, and forms a thick tuft of leaves at bottom; but the circumstance most in its favour, is its early appearance in the Spring: this seems to point it out as a proper grass to sow with others in laying down meadow land, and probably the *Poa trivialis* or common Meadow Grass, with the *Festuca elatior* or Meadow Fescue joined to it, would form a mixture, the produce of which, would for this purpose, be superior to that of most others.





*Anthoxanthum odoratum.*















# AIRA AQUATICA. SWEET-TASTED WATER AIRA.

AIRA *Linnaei Gen. Pl.* TRIANDRIA DIGYNIA.

*Cal.* 2 valvis, 2 florus. *Flosculi* absque interjecto rudimento.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

AIRA *aquatica* panicula patente, floribus muticis lævibus calyce longioribus, foliis planis. *Linnaei Syst.*

*Vegetab. p.* 96. *Fl. Suecic. No.* 68.

POA locustis bifloris; glabris, florali gluma majori plicata, ferrata. *Haller hist. No.* 1471.

AIRA *aquatica* *Scopoli Fl. Carniol.* 94. *Hudson Fl. Angl.* 29.

AIRA culmo inferiore repente, flosculis muticis calyce longioribus, altero pedunculato. *Roy. lugdb.* 60.

GRAMEN caninum supinum paniculatum dulce. *Bauhin Pin.* 2.

GRAMEN miliaceum aquaticum. *Raii Syn.* 402. *Scheuchz. agr.* 218.

GRAMEN miliaceum fluitans suavis saporis. *Merret. Pin.*

RADIX perennis.

CULMUS basi repit, furculosque emittit more Festucae fluitantis qui longe excurrunt et ad geniculos radículas plures albas dimittunt; culmus demum erigitur, pedalis circiter, teres, erectus, fistulosus, tener.

FOLIA latiuscula, tenera, lævia, carinata, vaginæ striatæ, ad basin rubræ præcipue in furculis.

PANICULA erecta, diffusa, laxa, racemi plures ex uno puncto, sæpe flexuosi.

SPICULÆ plerumque biflores, flosculo uno sessili, altero pedunculato, purpurei, apicibus albidis, *fig.* 1.

CALYX: GLUMA bivalvis, valvulis inæqualibus, purpureis, lævibus, Corolla multo brevioribus, *fig.* 2.

COROLLA: GLUMA bivalvis, valvulis æqualibus, subtruncatis, plicatis five angulatis, *fig.* 3.

STAMINA: FILAMENTA tria capillaria, longitudine Corollæ; ANTHERÆ flavæ, *fig.* 3.

PISTILLUM: GERMEN ovatum; STYLI duo plumosi, *fig.* 4.

NECTARIUM GLUMULÆ duæ minimæ ad basin Germinis, *fig.* 5.

SEMEN ovatum, intra Glumas arcte clausum, *fig.* 7.

ROOT perennial.

STALK creeps at bottom, and sends out young shoots like the Flote Fescue grass, which run out to a considerable distance, and send down small white roots at the joints; it then becomes erect, grows to about a foot in height, is round, hollow, and tender.

LEAVES broadish, tender, smooth, carinated, the sheaths striated, red at bottom, particularly in the young shoots.

PANICLE upright, spreading, loose; branches several, proceeding from one point, frequently crooked.

SPICULÆ generally contain two flowers, one of which is sessile, and the other stands on a foot-stalk, purple, the tips white, *fig.* 1.

CALYX: a GLUME of two valves the valves unequal, purple, smooth, and much shorter than the Corolla, *fig.* 2.

COROLLA: a GLUME of two valves, the valves equal, as if cut off at top, folded or angular, *fig.* 3.

STAMINA: three capillary FILAMENTS the length of the Corolla; ANTHERÆ yellow, *fig.* 3.

PISTILLUM: GERMEN oval; STYLES two and feathery, *fig.* 4.

NECTARY two very minute GLUMES at the bottom of the Germen, *fig.* 5.

SEED oval, closely contained within the Glumes, *fig.* 7.

The same soil and situation which produces the *Festuca fluitans*, is productive also of this grass; they both grow in gently flowing streams, or in wet boggy meadows; this circumstance may serve among others to distinguish the *Aira aquatica* from some of the *Poa's*, with which at first sight the young botanist might easily confound it: it has however besides this, many other characters which point it out more obviously. The bottom of the stalk usually creeps on the ground, and when it gets into the water, it runs out like the *Festuca fluitans* to a considerable distance, throwing off roots and young shoots as it passes along, very much in the manner of that grass: the stalk grows about a foot or more in height, is hollow, and remarkably tender; the leaves are broader than any of the *Poa's*, except the *Poa aquatica*, which is in every respect a much stronger plant: but what more especially characterizes this grass, is the purple or blueish colour of the Panicles, which is discernible even at a distance; and the sweet taste of the flowers if drawn through the mouth, whence this grass has acquired the name of *dulce*. Its parts of fructification likewise above described, distinguish it very strongly: when dried and placed between papers, the flowers and seeds are very apt to fall off.

It flowers in June and July, and may be found almost every where in the situations above-mentioned.

With respect to its uses in rural œconomy, it is in every respect inferior to the *Flote fescue grass*, consequently not worth cultivating for the use of cattle.

In a country like ours, where cultivation has made a considerable progress, the water plants are confined to a small space compared to what they occupied in a state of nature; the draining of bogs and lakes has rendered many large tracts in several parts of the kingdom, capable of producing corn and grass adapted to the use of cattle, which were formerly inaccessible to man or beast. We ought not however to look on this or any other plant as made in vain, because we do not immediately see the uses they are applied to: several sorts of water-fowl which abound in uninhabited countries, are expert gatherers of the seeds of the *aquatic grasses*; and no less than five different species of *Musci* or *Flies*, were produced from a few handfuls of the seeds of this grass, which when I gathered it, were doubtless in their Pupa or Chrysalis state: How little do we know of nature's productions!















# POA ANNUA. COMMON DWARF POA.

POA *Linnæi Gen. Plant.* TRIANDRIA DIGYNIA.

*Raii Synop. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

POA *annua*, panicula diffusa, angulis rectis, spiculis obtusis, culmo obliquo compresso. *Lin. Syst. Vegetab.* p. 97. *Spec. Plant. ed. 3.* p. 99. *Fl. Suecic.* p. 228.

POA culmo infracto, panicula triangulari, locustis trifloris glabris. *Haller. hist. Vol. 2.* p. 223.

GRAMEN pratense paniculatum minus. *Baubin. Pin.* p. 2

GRAMEN pratense minimum album et rubrum. *Gerard. emac. 3.* *Parkinson.* 1156.

GRAMEN pratense minus seu vulgatissimum. *Raii Synop.* 408. *Hudson. Fl. Angl.* p. 34. *Scopoli. Fl. Carniol.* 71. *Stillingfleet. tab.* 7

RADIX annua, fibrosissima.

CULMI plures, cespitosi, semiprocumbentes, in pratis vero inter alias plantas crescentes, subrecti, paululum infracti, semipedales.

VAGINÆ compressæ, ancipites, læves.

FOLIA plurima, brevia, carinata, glabra, sæpe transversim rugosa, margine minutissime aculeata. *fig. 8.*

PANICULA triangularis, subcompressa, flores subsecundi.

PEDUNCULI *universales* ad basin paniculæ plerumque *bini*, altero brevior, in medio frequenter *terni*, apice vero *solitarii*; anguli nunc recti, nunc obliqui.

SPICULÆ ovato-acutæ, compressæ, utrinque acutæ trifloræ, quadrifloræ. *fig. 2.*

CALYX: GLUMA bivalvis, valvulis concavis, inæqualibus. *fig. 1.*

COROLLA bivalvis, valvulis villosis, margine membranaceis, albidis, una majore, concava, obtusiuscula; altera minore, angustiore. *fig. 3.*

STAMINA: FILAMENTA tria capillaria; ANTHERÆ flavescentes, bifurcatæ. *fig. 4.*

PISTILLUM. GERMEN ovatum, STYLI duo ramosissimi, pellucidi. *fig. 5.*

SEMEN ovatum, corolla adnasciente tectum, ad basin villosulum. *fig. 7.*

ROOT annual and very fibrous.

STALKS numerous, forming a turf, semiprocumbent, but in meadows when growing among other plants, nearly upright, a little crooked, and about half a foot high.

SHEATHS flat, two edged, and smooth.

LEAVES very numerous, short, keel-shaped, smooth, frequently wrinkled transversely, the edge very finely serrated. *fig. 8.*

PANICLE of a triangular shape and flattish, the flowers growing mostly to one side.

PEDUNCLES: the *universal peduncles* generally proceed from the bottom of the panicle in *pairs*, one of which is shorter than the other, from the middle often by *threes*, and at top *singly*; forming angles sometimes straight, sometimes oblique.

SPICULÆ oval and pointed, flattish and sharp on both sides, containing three and four flowers. *fig. 2.*

CALYX: a GLUME of two valves, the valves hollow and unequal. *fig. 1.*

COROLLA of two valves, the valves villous, membranous and whitish at the edges, the one larger, hollow and bluntish, the other smaller and narrower. *fig. 3.*

STAMINA: the FILAMENTS very minute, the ANTHERÆ yellowish and forked. *fig. 4.*

PISTILLUM: the GERMEN oval, two STYLES exceedingly ramified and pellucid. *fig. 5.*

SEED oval, covered by the Corolla which adheres to it, at bottom slightly villous. *fig. 7.*

THE laudable Society established in London for the encouragement of Manufactures, Arts, and Commerce, sensible of the improvements which might be made in Agriculture, from a more general introduction of the most useful English Grasses, have offered Premiums to such as shall give the best account of their cultivation, and the *Poa Annua* above described, is one of those they have selected, from its appearing to them to be one of the most useful.

Mr. Stillingfleet observes that it makes the finest turf, that he has seen in high Suffolk whole fields of it, without any mixture of other Grasses, and that as some of the best salt Butter we have in London comes from that County, he apprehends it to be the best Grass for the Dairy; from observing likewise, that this Grass flourished much more from being trodden on, he concludes that frequent rolling must be very serviceable to it.

There is no Grass better entitled to Ray's epithet of *Vulgatissimum* than this, as it occurs almost every where, in Meadows, Gardens, at the sides of Paths, and on Walls: when it grows in a very dry situation, it frequently doth not exceed three inches, but in rich meadows it often grows more than a foot in height. The panicle is frequently green, but in open fields it acquires a reddish tinge; it flowers all the Summer long, and even in Winter if the weather be mild.

It appears to be the first general covering which Nature has provided for a fruitful soil when it has been disturbed; for which reason, in Walks, Pavements, or Pitching, it may be considered as one of the most troublesome of Weeds; the most expeditious method of destroying it, would probably be by pouring boiling water on it.

All the Authors that have described this Grass call it an annual, it differs however very considerably from the other annual Grasses, they throw up their Spikes or Panicles, produce their flowers and seeds, and then die away; this on the contrary keeps continually throwing out new shoots, and producing new flowers, and seeds, and if the ground be moist, a single plant will remain growing in this manner throughout the year, so that we generally find on the same plant, young shoots and ripe seeds.

*"Hic ver assiduum atque alienis mensibus æstas."*

Perhaps this is the only vegetable we have that in this Circumstance imitates the Tropical plants.

Although its seed may be gathered the whole summer long, yet about the latter end of May, it will be found in the greatest plenty: Experience must determine the best method, in which this Grass should be cultivated, whether by sowing its seed, or dividing and transplanting the Grass itself; as this seed would with more difficulty be procured in large quantities than that of many others, and as a single tuft of this Grass may be divided into a vast number of young plants, probably transplanting it in wet weather would be the most eligible mode of cultivation.

These observations are submitted to the consideration of the Farmer and Gentlemen of landed property, who reside in the Country, and who have both leisure and opportunity to try experiments of this kind. Although the Authors province more particularly is to describe and figure these plants in such a manner as to make them as obvious as possible, yet he would be exceedingly happy to communicate to the public, any improvements which may be made in this or any other branch of Agriculture, that he may be favoured with.











# FESTUCA FLUITANS. FLOTE FESCUE GRASS.

FESTUCA *Linnaei Gen. Pl. TRIANDRIA DIGYNIA:*

*Raii Gen. 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.*

FESTUCA panicula ramosa erecta, spiculis subsessilibus, teretibus muticis. *Linnaei Syst. Vegetab. p. 102. Fl. Suecic. p. 32.*

POA locustis teretibus multifloris, glumis floralibus exterioribus truncatis, interioribus bifidis. *Haller. hist. p. 219. n. 1453. v. 2.*

POA fluitans. *Scopoli Fl. Carniol. p. 73.*

GRAMEN aquaticum fluitans, multiplici spica. *Baubin Pin. 2.*

GRAMEN aquaticum cum longissima panicula. *I. Baubin. II. 490. Raii Syn. p. 412. Flote-Grass.*

GRAMEN fluviatile. *Gerard emac. 14. Parkinson. 1275. Hudson. Fl. Angl. p. 38. Oeder. Fl. Dan. t. 237. Schreber. Gram. tab. 3. Stillingfleet. mis. tab. 10.*

RADIX perennis, in limum profunde penetrans.  
CULMUS pro ratione loci pedalis ad tripedalem, basi repens furculosque promens, dein suberectus, vaginis foliorum ad paniculam usque amictus.

VAGINÆ foliorum compressæ, subancipites, striatæ.

FOLIA latiuscula, lævia; furculorum erecta, carinata, breviuscula, caulina longiora, planiuscula, flaccida, aquis tempore hyberno prostrata.

PANICULA longa, inclinata, nonnunquam subspicata sæpius vero ramosa, ramis nunc cauli adpressis nunc distantibus, ut pinxit Cl: Schreberus.

SPICULÆ tenues, teretes, unciales aut sesquicunciales 9 ad 12 floræ, rachi adpressæ.

CALYX: GLUMA bivalvis, valvulis inæqualibus, membranaceis. *fig. 2.*

COROLLA bivalvis, valvulæ longitudine æquales, calyce majores, inferiore majore, concava, lineata, nervis apice sæpe coloratis, apice membranacea, obtusiuscula, sæpius erosa; superiori lanceolata, compressa, bicuspidata. *fig. 3. 4.*

STAMINA: FILAMENTA tria capillaria, ANTHERÆ flavæ aut purpurascens, oblongæ, *fig. 5.*

PISTILLUM: GERMEN ovatum, STYLI duo subulati, reflexi, STIGMATA ramossissima. *fig. 7. 6. 8.*

NECTARIUM Glandulæ squamiformis, cordata, horizontalis, ad basin germinis. *fig. 9.*

SEMEN oblongum, nitidum olivaceum, bicorniculatum, nudum. *fig. 10. 11.*

FIG 12 Spicula morbo *Ergot* affecta.

ROOT perennial, striking deep into the mud.

STALK according to its place of growth from one to three feet in length, creeping at bottom and sending forth young shoots, afterwards nearly upright; covered with the sheaths of the leaves as far as the panicle.

SHEATHS of the leaves, flattened, two edged, and striated.

LEAVES rather broad and smooth, those of the young shoots upright, keel-shaped, and shortish; those of the stalk longer, flattish, weak, and hanging down, in the winter season lying flat on the water.

PANICLE long, generally inclined or bending down a little, sometimes forming a kind of spike, but most commonly branched; the branches sometimes pressed to the stalk, sometimes diverging from it in the manner represented by Schreber.

SPICULÆ slender, round, an inch or an inch and a half long, producing from 9 to 12 flowers, pressed to the stalk.

CALYX: a GLUME of two valves, which are unequal and membranous. *fig. 2.*

COROLLA of two valves, which are of an equal length and bigger than the Calyx, the lower valve largest, concave and nervous, the nerves towards the top frequently coloured, at top membranous, rather blunt with uneven points, the upper valve more pointed, flat and bifid. *fig. 3. 4.*

STAMINA: three FILAMENTS very slender, ANTHERÆ oblong and yellow or purplish. *fig. 5.*

PISTILLUM: GERMEN oval, STYLES two, tapering and bending back, STIGMATA very much branched. *fig. 7. 6. 8.*

NECTARY a small heart-shaped squamiform gland, placed horizontally at the bottom of the Germen. *fig. 9.*

SEED oblong, shining, of an olive colour, with two little horns, and naked. *fig. 10. 11.*

FIG 12 a Spicula affected with the disease called *Ergot*.

IN speaking of the *Bromus mollis*, we had occasion to remark the very great variety of appearance to which the Grasses were subject from soil and situation, and this observation is equally applicable to the *Festuca fluitans*.

This Grass appears to thrive best in still waters, or gently running streams, where its numerous fibres penetrate easily into the mud; in such situations it becomes very luxuriant, the leaves are large, tender and sweet, and the Panicle becomes very much branched; but in Meadows where it is deprived of its natural quantity of water, it becomes in every respect less, and the Panicle is frequently changed to a simple spike; when it has nearly done flowering, the branches of the Panicle generally project from the main stalk so as to form an acute angle. In every situation whether the Panicle be large, or small, the Spiculæ are always pressed close to the stalk or branches of the Panicle, and this circumstance joined to the length, and roundness of the Spiculæ, sufficiently characterize this species; if it should not however, its parts of fructification afford at once a most pleasing and satisfactory distinction, *vid. fig. 6. 9. 10.*





*Festuca* <sup>21</sup> *fluitans.*







We have often had the singular pleasure of observing this Grass soon after being gathered, expand its Glumes and expose its delicate yellow Stamina, and still more delicate Pistilla, and in this expanded state each Spicula puts on a very different face, and seems to invite the Student to its investigation, and would he wish to become acquainted with the structure of this useful tribe of plants, he cannot select one more proper for his purpose, as it may be found in almost every watery ditch, flowering from the beginning to the end of Summer, and has all the parts of fructification which are peculiar to the Grasses, large enough to be distinctly discerned even by the naked Eye, and so exposed as to be visible without the trouble of dissection.

Modern Botanists seem much divided whether they should consider this as a *Poa* or *Festuca*, as it does not appear to us that we should in the least advance our favourite Science by altering its generic name, we have continued that of LINNÆUS, although we are by no means satisfied with his generic characters of the Grasses in general, and are persuaded that future observations and a more accurate attention to the minute parts of their fructification, will place those Genera in a much clearer point of view than has yet been done by any author.

Professor ORDER in his *FLORA DANICA*, and the celebrated SCHREBER in his *AGROSTOGRAPHIA*, have both given a figure of this grass. As we have not seen it growing either in Denmark or Germany we cannot say that their figures do not express its particular mode of growth in those countries, but they do not convey to us its habit or manner of growing here; in both their figures the Panicle is represented quite upright, whereas with us it is always more or less inclined; this however is a matter of no great moment, a deviation from nature in the representation of the minute parts of the fructification is a matter of much greater consequence, and we are sorry to find that Mr. SCHREBER whose knowledge and accuracy can seldom be called in question, has not been sufficiently attentive to all the parts which characterize this species. He has represented the Styles as branched or feathered quite down to the Germen, whereas they are evidently *naked at bottom* and *much branched at top only*; the singular Squamula or Scale at the base of the Germen he has properly noticed, but the *two little Horns* at the top of the seed, which are the remains of the Styles, and which in a peculiar manner distinguish this important seed, he does not remark. In the *Flora Danica* the Styles are likewise feathered down to the Germen and the Squamula at the base of the Germen wholly omitted.

This Grass is found to be of considerable importance in the œconomy of Nature.

The *Phalæna Festuæ* or *Gold Spot Moth*, to which LINNÆUS with great propriety adds the epithet of *pulcherrima*, (*vid. Falna Slæcica. p. 311. Albin. pl. 84. lit. E. F. G. H.*) is said by him to feed on this particular Species; with us however it is always found on a different grass, viz. the *Poa aquatica* or *large water Poa*; its history, with the particular manner of finding it we shall give under that grass.

From the observations of late writers, it appears that several sorts of Cattle are remarkably fond of this grass, particularly Kine and Hogs, and that in the spring time they are frequently enticed into bogs by endeavouring to get at its sweet young shoots, which appear earlier than those of most other Grasses.

“Professor KALM in a journey through part of *Sweden*, observed the Swine to go a great way into the water after this grass, the leaves of which, they eat with great eagerness; on this he was tempted to try if they would eat the same grass dried; he accordingly had small bundles of it gathered, dried, and cast before them; the consequence was they ate it seemingly with as much appetite as horses do hay, hence he concludes that by cultivating this grass, *wet and swampy places* might be rendered useful, and a great deal of corn, &c. saved”.

He who introduced the method of feeding hogs in summer time on Clover, deserved very well of his country; and if the hay of this grass would keep them in heart during the winter, it might prove a very valuable discovery.

Mr. Kent in his *hints to Gentlemen of landed property*, lately published, considers this as a most valuable grass, and assures us (*p. 34*) it is to be improved above all others, and at a less expence, merely by flooding; (*p. 54*;) he informs us that flooding destroys all weeds, and enriches the land to a very high degree; (*p. 56*;) he says as rolling and pressure bring the annual meadow-grass, to flooding immediately begets the *stote fescue*. These assertions of Mr. Kent bespeak neither the Philosopher nor the accurately practical Farmer, they contain an exaggerated account of improving pasture land by a particular process, but show a great want of that minute attention which so important a subject required.

From a long residence in Hampshire, we well know that the meadows in that county are considerably improved by flooding them, that is stopping the water when there happens to be an unusual quantity from violent or long continued rains, and by means of trenches or gries, conveying the surplus water so as to overflow them entirely if possible; but we deny, that by this process all weeds are destroyed, the use of manure superseded, or that *stote fescue* grass is immediately begotten. Although it is a constant practice with the farmers to flood their meadows in the winter, it is no less a constant practice with such as wish to have good crops of grass to manure them with dung or ashes. Flooding can no otherwise destroy weeds than by altering the soil in which they grow, and if it destroys one set of weeds, it must certainly favour the growth of another: if those plants which thrive best in a dry situation are destroyed by the alteration which now takes place in the soil, those which are fond of a moist situation will proportionably flourish. If the *stote fescue* grass was immediately produced by flooding, we should find all those meadows which have undergone this operation to contain nothing but this kind of grass, whereas the richest and best meadows in Hampshire contain scarce a single blade of it: the fact is, this grass will not flourish in meadow land, unless you convert it into a kind of bog or swamp, and I believe few landed Gentlemen will think this an improvement, or thank Mr. Kent for giving them such a hint.

“Mr. Stillingfleet informs us that Mr. Deane a very sensible Farmer at Ruscomb, in Berkshire, assured him, that a field always lying under water of about four acres, that was occupied by his father when he was a boy, was covered with a kind of grass that maintained five farm-horses in good heart from April to the end of harvest without giving them any other food, and that it yielded more than they could eat. He at my desire brought me some of the grass, which proved to be the *stote fescue* with a mixture of *marsh bent*; whether this last contributes much towards furnishing so good pasture for horses I cannot say, they both throw but roots at the joints of the stalks and therefore likely to grow to a great length. In the index of dubious plants at the end of *Ray's Synopsis*, there is mention made of a grass under the name of *Gramen caninum supinum longissimum* growing not far from *Salisbury* twenty-four feet long; this must by its length be a grass with a creeping stalk: and that there is a grass in Wiltshire, growing in watery meadows, so valuable that an acre of it lets from ten to twelve pounds, I have been informed by several persons. These circumstances incline me to think it must be the *stote fescue*; but whatsoever grass it be it certainly must deserve to be enquired after”.

It may not be improper to add, that the account of the extraordinary long grass above mentioned, was taken by RAY from the *Phytographia Britannica*, which mentions the particular spot where it grew, viz. at Mr. Tucker's, at Maddington, nine miles from Salisbury; it is also remarked that *they put Hogs with it*.

As it is now above a century since this enquiry was first made, is it not surprizing that no succeeding Botanic Writer should have acquired satisfactory information concerning it? I am promised specimens of the roots and seeds. Upon



Upon the whole, from the observations which we ourselves have made on this Grass and from what is to be collected from Authors, it appears that if it be cultivated to any advantage it must be in such meadows, as are *naturally very wet and never drained*.

The quickest and perhaps the best method of propagating it would be by transplanting the roots at a proper season, and if the soil prove suitable, from the quickness of its growth, and its creeping Stalk, it would soon exclude most other plants, and produce a plentiful crop.

In foreign countries the seed of this Grass seems to be an object of more importance than the grass itself, the following is the substance of what Mr. SCHREBER has said concerning it, (vid. *Beschreibung der Gräser* p. 40.) "The seed has a sweet and pleasant taste particularly before it comes to its full growth, whence the plant has acquired the name of *Manna Grass*. Ducks and other water-fowl feed on it with much eagerness. (LINNÆUS has remarked that the Water-fowl are very well acquainted with the method of collecting these seeds) it has been observed likewise that Fish are fond of it, and that Trout in particular thrive in those rivers where this grass grows in plenty and sheds its seeds; but it is not only for Birds and Fish, but also for Man, a palatable and nutritious food, and has for many years past been known at Gentlemen's tables under the name of *Manna-Grout*.

"The Manna Grass is of two kinds the one *Panicum sanguinale* or *Cocks-foot Panic-Grass* the other *Festuca fluitans* which we have now described; the former is cultivated in several parts of Germany, and its seed somewhat resembles that of Millet, the latter is collected in great abundance from the plant as it grows wild in *Poland, Lithuania, the new Marche* and about *Frankfort* and other places in *Silesia* as also in *Denmark* and *Sweden* and hence exported to all parts.

"The common method they make use of to gather and prepare this seed in *Poland, Prussia*, and the *Marche* is as follows. At sun rise the seed is gathered or beat from the dewy grass into a horse-hair sieve, and when a tolerable quantity is collected, it is spread on a sheet and dried fourteen days in the sun; it is then thrown into a kind of wooden trough or mortar, straw or reeds laid between it, and beat gently with a wooden Pestle so as to take off the chaff and then winnowed. After this it is again put into the mortar, in rows, with dried Marygold-flowers, Apple, and Hazel leaves, and pounded until the Husk is entirely separated and the seed appears bright, it is then winnowed again, and when it is by this last process made perfectly clean it is fit for use. The Marygolds are added with a view to give the seeds a finer colour. The most proper time for collecting them is in July. A Bushel of the seed and chaff, yields about two quarts of clean seed.

"When boiled with milk or wine they form an extremely palatable food, and are most commonly made use of whole in the manner of *Sago* to which they are in general preferred.

In the month of *October* last, I discovered in a watery ditch, which runs through a meadow not far from Kent-Street Road an uncommon appearance in some of the seeds of this grass, and on a farther examination, I found whole Panicles the seeds of which were affected in a similar manner; instead of being of their natural size, and colour, they were enlarged to a very great degree, assumed externally a blackish colour, and were more or less incurvated. Struck with the novelty as well as oddity of the appearance I conjectured at first that it was a disease occasioned by some Insect, I examined it more attentively, but could not find the least cause to suppose that an Insect had been concerned in it. The surface of some of these seeds was rough, and chopped, they were light as to weight, internally of a whitish colour, insipid in their taste but not disagreeable. Having a little before this been favoured with a sight of some *horned Rie* it now occurred to me that this was the same disease which had been said to affect the *Rie* only, and farther enquiry confirmed my conjecture.

As this singular disease of the *Rie* has first been noticed by the French, and as some very uncommon circumstances have attended it, it cannot fail of proving acceptable to our readers to lay before them the substance of what they have said concerning it. In the *Histoire de L'Academie royale des Sciences* there is an account given of a particular species of Gangrene or Mortification which attacked many persons in some particular provinces of France. It began generally at the toes and sometimes spread as high as the thigh. Out of fifty people there was but one that was attacked with this disease in the hands and what was equally remarkable there were no females affected with it except some little Girls.

"It appears that this singular malady attacked only the lower sort of people, and that too in years of scarcity, that it proceeded from bad nourishment, and principally from eating bread made of a certain black and diseased corn called *Ergot*, from the grains assuming somewhat of the form of a Cocks Spur. vid. fig. 12.

"The manner in which this singular monstrosity of the Corn is produced is thus related by Monsieur FAGON.

"There are certain mists which prove injurious to the corn, and from which the greatest part of the Ears of the *Rie* defend themselves by their beards. In those however which this hurtful humidity can strike and penetrate, it rots the skin which covers the grain, blackens it, and alters the substance of the grain itself, the juices which form the seed being no longer kept within their ordinary bounds by the skin, are carried hither in two great an abundance and amassing themselves irregularly form this monstrous appearance.

"He observes that it is only in *Rie* that the *Ergot* is to be found, that the poor people do not separate this grain from that which is good, that it was only in such particular seasons as favoured the growth of the *Ergot* that this disease was prevalent, that the country people after eating bread made of this bad corn perceived themselves as if drunk, and after this the mortification generally took place, that in some provinces where there was but little of this *Ergot* this species of disease was not known,

"From the observations made by the Farmers of that country it appears that this bad species of grain is produced in the greatest abundance in such land as is wet and cold, and particularly in rainy seasons. The Poultry refused it when given them, nevertheless if by accident they had eaten it they did not appear to be hurt by it. When sown (as might be expected) it did not vegetate."

A kind of mortification very similar to the above described was observed in this Kingdom some years ago; it affected the same kind of people and on enquiry it was found that they had fared very hard, and that the bread which they had eaten was made of the *tailings* or *screenings* of Corn, but it was not ascertained whether it contained any of the *Ergot* or not.

From the insipid taste of this corn, as well as from its not proving fatal to Poultry, it seems exceedingly probable that it is not in itself noxious, any otherwise than as it affords no nourishment; and that those people who have eaten of this corn, have in fact been abridged of a proportionate quantity of food, hence from an impoverished state of the fluids and a weak action of the vessels this species of Mortification might easily be induced.







# BROMUS MOLLIS. SOFT BROME GRASS.

BROMUS *Linnaei Gen. Pl.* TRIANDRIA DIGYNIA.

*Raii Syn. Gen.* 27. HERBÆ GRAMINIFOLIÆ FLORE IMPERFECTO CULMIFERÆ.

BROMUS *mollis* panicula erectiuscula, spiculis ovatis pubescentibus, aristis rectis, foliis mollissime villosis.  
*Linnaei Syst. Vegetab.* p. 102. *Sp. Pl.* p. 112.

BROMUS hirsutus, locustis septifloris, ovato conicis. *Haller hist.* p. 1504.

BROMUS Polymorphus. *Scopoli Fl. Carniol.* p. 80.

FESTUCA avenacea hirsuta, paniculis minus sparsis. *Raii Synop.* p. 413 *Hudson Fl. Angl.* p. 39. n. 1.  
*Secalinus. Schreber. Gram.* pl. 6. fig. 1.

RADIX	biennis *	ROOT	biennial *
CULMUS	pedalis ad tripedalem, erectus; GENICULI tumidi, cylindracei.	STALK	from one to three feet high, upright; the JOINTS swelled and cylindrical.
FOLIA	cum VAGINIS pilis mollibus vestita.	LEAVES	together with their SHEATHS covered with soft hairs.
PANICULA	erectiuscula, nunc coarctata nunc diffusa.	PANICLE	nearly upright, sometimes close, sometimes spreading.
SPICULÆ	ovato-acutæ, turgidæ, subcompressæ, plerumque villosæ, octofloræ, circa oras glumarum albidæ. fig. 1.	SPICULÆ	oval and pointed, turgid, flattish, generally villous, containing eight flowers, whitish about the edges of the Glumes. fig. 1.
CALYX:	GLUMA bivalvis, valvulis inæqualibus, muticis. fig. 2.	CALYX:	a GLUME of two valves, the valves unequal without any beard, or arista, fig. 2.
COROLLA:	GLUMA bivalvis, valvulâ exteriore lata, concava, striata, aristata, fig. 4. interiore planiuscula, ciliata, lanceolata. fig. 3. ARISTA valvulis paulo longior, subrecta, fig. 4.	COROLLA:	a GLUME of two valves, the outermost valve broad, hollow, striated, and bearded, fig. 4; the innermost flattish, ciliated or hairy at the edges and pointed, fig. 3; the ARISTA a little longer than the valves and nearly straight, fig. 4.
NECTARIUM:	Glumula bipartita, ad basin petali interioris, fig. 5, parum auct:	NECTARIUM:	a small kind of Glume deeply divided, placed at the base of the inner petal, fig. 5. a little magnified.
STAMINA:	FILAMENTA tria capillaria, ANTHERÆ primum flavæ, oblongæ, dein fuscæ et bifurcatæ. fig. 7. 6. auct:	STAMINA:	three FILAMENTS very small, ANTHERÆ first yellow and oblong, lastly brown and forked at each end, fig. 7. 6. magnified.
PISTILLUM:	GERMEN ovatum, apice submarginatum, fig. 8. STYLI duo, ad basin usque plumosi, ex uno latere germinis enati. fig. 9.	PISTILLUM:	GERMEN oval, with a slight depression at top, fig. 8. two STYLES feathery quite down to the bottom, proceeding from one side of the Germen, fig. 9.
SEMEN	oblongum, concavum, calyci adnatum fig. 10. denudatum fig. 11.	SEED	oblong, concave, adhering to the Calyx fig. 10. the Calyx taken off, fig. 11.

OUR Farmers in general are not very warm in their recommendations of this Grass; nevertheless it abounds in most of our best meadows; it springs up early, and ripens its seed generally about the time of Hay-making. The seed is large, and each panicle contains nearly as much as that of a common Oat, indeed it seems to have more pretensions to the name of Corn than of Grass.

Although Cattle may not be so fond of the leaves, and panicle of this Grass while green as of some others, yet may it not (when cut down as it usually is when the seed is nearly ripe) contribute to render the hay more nutritive? and hence may it not be a proper Grass to sow with others? It seems at least to deserve the attention of the Farmer.

There is perhaps no class of plants more affected by difference of soil and situation than the Grasses, hence the same plant has often been divided into several species; and to such Varieties is the present Plant incident, as to occasion SCOPOLI to give it the name of *Polymorphus*.

When it grows on a Wall, or dry Bank, the Spiculæ are generally more upright, and closer together; when the soil is rich and moist, the Spiculæ spread out, and the whole plant becomes much larger; in Meadows the Spiculæ frequently lose their villous appearance and become perfectly smooth. To determine this species then with more certainty, recourse must be had to the parts of fructification.

\* According to Linnæus.





*Bromus Holstii*



Kuhn.













*Bromus sterilis*



# BROMUS STERILIS. BARREN BROME GRASS.

BROMUS *Linnæi. Gen. Pl.* TRIANDRIA DIGYNIA.

*Raii Gen.* 27. HERBÆ GRAMINIFOLIÆ, FLORE IMPERFECTO CULMIFERÆ.

BROMUS *sterilis*, panicula patula, spiculis oblongis distichis, glumis subulato-aristatis. *Lin. Syst. Vegetab.* p. 103.

BROMUS panicula nutante; locustis septifloris; glumis argute lanceolatis, lineatis, subhirsutis. *Haller. hist. n.* 1505.

FESTUCA avenacea sterilis elatior. *Baubin. pin.* 9. 10.

BROMOS herba, five avena sterilis. *Parkinson, 1147.* Bromos sterilis. *Gerard. emac. Raii Synop.* p. 412. Great wild Oat-Grass or Drank. *Hudson. Fl. Angl.* p. 40. *Scopoli. Fl. Carniol.* p. 78.

RADIX fibrosa.  
CULMI pedales ad bipedales, suberecti, teretes, læves, ad basin infracti; Geniculi tumidi.  
FOLIA longa, plana, unâ cum vaginis mollissime villosa.  
PANICULA magna, nutans; PEDUNCULI plerumque simplices, ad basin tumidi.  
SPICULÆ biunciales, subcompressæ, apice divergentes, fig. 1.  
CALYX: GLUMA bivalvis, Valvulis inæqualibus linearilanceolatis, fig. 2.  
COROLLA: bivalvis, Valvulis inæqualibus, exteriore longiore, concava, striata, apice membranacea, bifida, ARISTA recta Corollâ duplo longiore terminata, fig. 3. Valvulâ interiore planiuscula, ciliata, fig. 4.  
NECTARIUM: GLUMULÆ duæ acuminatæ, ad basin biglandulosæ, fig. 6.  
STAMINA: FILAMENTA tria, capillaria, ANTHERÆ flavæ, fig. 5.  
PISTILLUM: GERMEN oblongum, apice truncatum five emarginatum, pars inferior ex quâ styli prodeunt et quod verum Germen esse videtur, nitida, fig. 7. pars superior albida, villosa, fig. 8. STYLI duo plumosi, patuli, fig. 9.  
SEMEN ex purpureo-fuscum, oblongum, aristatum, calyce tectum, fig. 10, denudatum, fig. 11.

ROOT fibrous.  
STALKS from one to two feet high, nearly upright, round and smooth, at bottom crooked or elbowed; the Joints swelled.  
LEAVES long and flat, covered, together with their sheaths with soft short hairs.  
PANICLE large, and drooping, the PEDUNCLES generally simple, and swelled at their base.  
SPICULÆ about two inches long, flattish and diverging toward the extremity, fig. 1.  
CALYX: a GLUME of two Valves, the valves unequal, long and narrow, fig. 2.  
COROLLA: composed of two Valves, which are unequal, the exterior Valve longest, concave, striated, at top membranous and bifid, terminated by a straight ARISTA twice the length of the Corolla, fig. 3. the interior Valve nearly flat, and ciliated, fig. 4.  
NECTARY: two small long-pointed GLUMES with a small gland at the base of each, fig. 6:  
STAMINA: three small FILAMENTS: the ANTHERÆ yellow, fig. 5.  
PISTILLUM: the GERMEN oblong, at top flat or slightly emarginate, the bottom part from whence the Styles proceed, and which seems to be the true Germen, is smooth and shining, fig. 7. the upper part white and villous, fig. 8. two STYLES, feathery and spreading, fig. 9.  
SEED of a purplish brown colour, oblong, bearded, enclosed within the Calyx, fig. 10. the Calyx stripped off, fig. 11.

Much praise is due to the late ingenious Mr. STILLINGFLEET for his attempts to introduce, more generally among Farmers, a knowledge of our most useful English Grasses: his observations on this subject are so exceedingly pertinent that the insertion of them cannot fail to prove highly acceptable to such as have the promotion of Agriculture at heart.

“It is wonderful to see how long mankind has neglected to make a proper advantage of plants of such importance, and which in almost every country are the chief food of cattle. The farmer for want of distinguishing, and selecting grasses for seed, fills his pasture either with weeds, or bad, or improper grasses; when by making a right choice, after some trials he might be sure of the best grass, and in the greatest abundance that his land admits of. At present if a farmer wants to lay down his land to grass, what does he do? he either takes his seeds indiscriminately from his own foul hay-rick, or sends to his next neighbour for a supply. By this means, besides a certain mixture of all sorts of rubbish, which must necessarily happen; if he chances to have a large proportion of good seeds, it is not unlikely, but that what he intends for dry land may come from moist, where it grows naturally, and the contrary. This is such a slovenly method of proceeding, as one would think could not possibly prevail universally; yet this is the case as to all grasses except the darnel grass, and what is known in some few countries by the name of the Suffolk grass; and this latter instance is owing, I believe, more to the soil than any care of the husbandman. Now would the farmer be at the pains of separating once in his life half a pint, or a pint of the different kinds of grass seeds, and take care to sow them separately; in a very little time he would have wherewithal to stock his farm properly, according to the nature of each soil, and might at the same time spread these seeds separately over the nation by supplying the seed-shops. The number of grasses fit for the farmer is, I believe small; perhaps half a dozen, or half a score are all he need to cultivate; and how small the trouble would be of such a task, and how great the benefit, must be obvious to every one at first sight. Would not any one be looked on as wild who should sow wheat, barley, oats, rye, pease, beans, vetches, buck-wheat, turnips and weeds of all sorts together? yet how is it much less absurd to do what is equivalent in relation to grasses? does it not import the farmer to have good hay and grass in plenty? and will cattle thrive equally on all sorts of food? we know the contrary. Horses will scarcely eat hay, that will do well enough for oxen and cows. Sheep are particularly fond of one sort of grass, and fatten upon it faster, than on any other in Sweden, if we may give credit to Linnæus. And may they not do the same in England? How shall we know till we have tried? Nor can we say that what is valuable in Sweden may be inferior to many other grasses in England; since it appears by the Flora Suecica that they have all the good ones that we have. But however this may be I should rather chuse to make experiments, than conjectures.”

The present Grass is not one of those which are worth the Farmer's cultivation, but so much the reverse, that most Authors have called it *sterilis*, not because it is really barren but from its inutility with respect to Cattle.

It grows exceeding common under hedges and flowers in May and June.

In order to have a clear idea of the structure of the parts of fructification in the Grasses, they should be examined just at the time, or rather before the *Antheræ* have discharged their *Pollen*, a small space of time makes a considerable alteration in their appearance.

In this species of *Bromus* as well as in the *Bromus mollis* the Styles proceed from the middle of the Germen and not from the top, this is a peculiarity which seems to have escaped the notice of *Schreber* who has written professedly on the Grasses, and examined them with more accuracy than any preceding Writer. In his figures the Styles proceed always from the Apex of the *Germen*.













*Dipsacus pilosus.*



DIPSACUS PILOSUS. SMALL WILD TEASEL or SHEPHERD'S  
R O D.

DIPSACUS *Linnei Gen. Pl.* TETRANDRIA MONOGYNIA.

*Calyx communis polyphyllus ; proprius superus. Receptaculum paleaceum.*

*Raii Syn. p. 191. HERBÆ CORYMBIFERIS AFFINES.*

DIPSACUS *pilosus* foliis petiolatis appendiculatis. *Linn. Syst. Vegetab. p. 120. Spec. Plant. 141.*

DIPSACUS foliis biauribus, capitulis hemisphæricis. *Haller. hist. helv. No. 199.*

DIPSACUS sylvestris capitulo minore vel virga pastoris minor. *Bauhin Pin. p. 385.*

DIPSACUS minor seu Virga pastoris. *Ger. emac. 1168.*

VIRGA PASTORIS. *Parkinson 984. Raii Synop. p. 192. Hudson. Fl. Angl. p. 49.*

RADIX biennis.	ROOT biennial.
CAULIS orgyalis, erectus, ramosissimus, pene teres, aculeatus, fulcatus.	STALK about six feet high, upright, very much branched, nearly round, prickly and grooved.
RAMI oppositi, patentes, cauli fimiles.	BRANCHES opposite, spreading, like the stalk.
FOLIA ad basin CAULIS, connata, ovato-lanceolata, ferrata, nervo medio subtus aculeato, indivisa, suprema appendiculata; RAMORUM; ima appendiculata, ferrata, suprema margine integerrima, lanceolata.	LEAVES at the bottom of the STALK connate, ovato-lanceolate, ferrated, the midrib prickly underneath, undivided, those at the top dividing at the base into two smaller leaves; the leaves on the branches at bottom similar to those last described, at top lanceolate, with the edges entire.
PEDUNCULI erecti, longi, ex dichotomiâ caulis, fulcati, aculeati, apice spinosissimi, uniflori.	FOOT-STALKS of the flowers, upright, long, proceeding from the middle where the stalks separate, grooved, prickly, at top very full of slender spines, supporting one flower.
FLORES albi, in capitulum hemisphæricum collecti, dum florent nutantes, postea capitula eriguntur.	FLOWERS whitish, collected together in a small hemispherical head, which, while the plant is in flower, droops, and afterwards becomes upright.
CALYX: PERIANTHIUM commune multiflorum, hexaphyllum, foliolis longitudine florum, patentibus, lanceolatis, mucronatis, fig. 1: PERIANTHIUM proprium parvum, superum, concavum, ciliatum, fig. 5. lente auctum.	CALYX: the common PERIANTHIUM supporting many flowers, composed of six leaves, the length of the flowers, spreading, lanceolate and pointed, fig. 1. The PERIANTHIUM of each floscule small, placed above the Germen, hollow, and ciliated, fig. 5, magnified.
COROLLA propria monopetala, tubulosa, limbo quadrifido, laciniâ inferiore longiore, fig. 3.	COROLLA: each floscule monopetalous, tubular, the limb quadrifid, the lowermost segment longest, fig. 3.
STAMINA: FILAMENTA quatuor Corollâ longiora; ANTHERÆ purpureæ, fig. 3.	STAMINA: four FILAMENTS, longer than the Corolla; ANTHERÆ purple, fig. 3.
PISTILLUM: GERMEN inferum, tetragonum; STYLUS filiformis, longitudine Corollæ; STIGMA simplex, fig. 6.	PISTILLUM: GERMEN placed below the Calyx, quadrangular; the STYLE filiform, the length of Corolla; the STIGMA simple, fig. 6.
PERICARPIUM nullum.	SEED-VESSEL wanting.
SEMINA fusca, subtetragona, fig. 4.	SEEDS brown, nearly quadrangular.
RECEPTACULUM commune hemisphæricum, paleaceum, pars inferior palearum concava, alba, carinata, superior lanceolata, acuminata, spinulis obsita, fig. 2.	RECEPTACLE common to all the flowers paleaceous; the lower part of the paleæ hollow, white, and angular behind; the upper part lanceolate, tapering to a point, and beset with little spines or hairs, fig. 2.

THIS species of *Teasel* may be considered as one of our *Plantæ rariores*; hitherto I have found it only in one place near town, viz. on the right hand side of the Turnpike-road leading from *Deptford* to *Lewisham*, not far from the latter: as it grows to a considerable height, it is conspicuous at a distance: the flowers appear in July, and the seed is ripe in September: it continues to blow for a considerable time, and did not the plant take up so much room, there is beauty enough in its flowers to recommend it for the Garden. Moths seem very fond of its blossoms, being found on them in great numbers after sun-set.



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# HOTTONIA PALUSTRIS. WATER HOTTONIA, OR WATER VIOLET.

HOTTONIA *Lin. Gen. Pl.* PENTANDRIA MONOGYNIA.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

HOTTONIA *palustris*, pedunculis verticillato-multifloris. *Lin. Syst. Vegetab.* 164.

HOTTONIA *florum* verticillis spicatis. *Haller. hist. n.* 632.

MILLEFOLIUM *aquaticum* feu *Viola aquatica*, caule nudo. *Bauhin. pin.* 141. *Parkinson*, 1256.

VIOLA *palustris*. *Gerard. emac.* 826. *Raii Syn. p.* 285. *Hudson. Fl. Angl. p.* 72. *Scopoli Fl. Carniol. n.* 213. *Fl. Dan. icon.* 487.

RADIX e plurimis fibrillis capillaceis albis constat, quæ in limum profunde dimittuntur.

ROOT consists of numerous white capillary fibres, which penetrate deep into the mud.

CAULIS five SCAPUS floriferus, pedalis, simplex, erectus, multiflorus, versus apicem glandulis scabriusculus, ad basin foliis plurimis instructus, unde per aquam longe excurrunt caules plures qui fibrillas dimittunt.

STALK or flowering SCAPUS, a foot high, simple, upright, sustaining many flowers, towards the top roughish with little glands, furnished at bottom with numerous leaves, from whence several stalks proceed and run out to a considerable length through the water throwing out numerous white fibres.

FOLIA plurima, plerumque immersa, pinnata, in apicibus caulium juniorum densa, reflexa, Pinnis linearibus planis.

LEAVES numerous, generally under the water, pinnated, growing in tufts on the tops of the young stalks, bending downwards, the Pinnæ linear and flat.

FLORES pallide purpurei, verticillati, spicati, Pedunculi ad. 10, Bractæa, ad basin instructi, post florescentiam reflexi.

FLOWERS of a pale purple colour, growing in whirls, and forming a spike. Peduncles to 10 in number, furnished at bottom with a Bractæa, when the flowers are gone off turning downwards.

CALYX: PERIANTHIUM monophyllum, quinquepartitum: LACINIIS linearibus, erecto-patulis, fig. 1.

CALYX: a PERIANTHIUM of one leaf, divided into five SEGMENTS, which are linear, upright and somewhat spreading, fig. 1.

COROLLA: monopetala, hypocrateriformis, TUBUS longitudine calycis, LIMBUS quinquefidus, planus: LACINIIS ovato-oblongis, emarginatis, fig. 2.

COROLLA: monopetalous and salver-shaped, the TUBE the length of the calyx; the LIMB divided into five segments and flat; the SEGMENTS of an oval-oblong shape with a notch at the extremity, fig. 2.

STAMINA: FILAMENTA quinque, subulata, brevia, erecta. ANTHERÆ oblongæ, flavæ, fig. 3.

STAMINA: five FILAMENTS tapering, short, and upright, ANTHERÆ oblong and yellow, fig. 3.

PISTILLUM: GERMEN subglobosum. STYLUS filiformis, brevis. STIGMA globosum, fig. 4.

PISTILLUM: GERMEN roundish, STYLE thread-shaped and short, STIGMA spherical, fig. 4.

PERICARPIUM: CAPSULA globosa, unilocularis, subpellucida, fig. 5.

SEED-VESEL: a round CAPSULE of one cavity, slightly transparent, fig. 5.

SEMINA plurima, ovata, pallide fusca, fig. 7. receptaculo globoso intra capsulam affixa, fig. 6.

SEEDS numerous, oval, of a pale brown colour, fig. 7: affixed to a round receptacle within the capsule, fig. 6.

This singular plant abounds in most of our watry Ditches, particularly in such as divide the Meadows, and flowers in May and June, continuing for a considerable time in blossom; among a variety of other places it may be found in a ditch on the right hand side of the Field Way leading from Kent-street Road to Peckham.

We do not find any author that mentions its possessing any properties to recommend it but its beauty and singularity, both of which it possesses in a degree sufficient to command our admiration.

The leaves generally grow beneath the surface of the water and afford a Nidus if not Nourishment to the fresh-water Periwinkle and some other small shell fish.

Antient Botanists have given it the names of *Millefolium aquaticum*, and *Viola aquatica*; the great number of its leaves induced them, with some propriety, to call it *Millefolium*, but why they should call it a *Viola* seems difficult to determine, as the blossom has nothing in its structure similar to the flowers of that Genus, Boerhave afterwards called it *Hottonia*, in honour of Dr. Hotton, which name Linnæus has continued.





*Wolltonia palustris.*  
Kellom. 1800. 17. 1801.











# ANAGALLIS ARVENSIS. PIMPERNEL.

ANAGALLIS *Linnaei. Gen. Plant.* PENTANDRIA MONOGYNIA.

*Raii. Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO.

ANAGALLIS foliis indivisis caule procumbente. *Lin. Spec. Plant.* 211.

ANAGALLIS phœniceo flore. *Baubin. Pin.* 252.

ANAGALLIS mas. *Fuschii.* 18. *Gerard. emac.* 617. *Parkinson.* 558. *Oeder. Flor. Dan. tab.* 88.

*Raii. Syn.* 282. *Hudson.* 73. *Haller. Hift.* 621. 626. *Scopoli. Fl. Carniol.* 139.

RADIX simplex, fibrosa, annua.	ROOT simple, fibrous, and annual.
CAULIS ramosus, prostratus, quadrangularis, lævis, subtortuosus, fig. 1.	STALK branched, procumbent, quadrangular, smooth, and a little twisted, fig. 1.
FOLIA opposita, sessilia, cordata, glabra, <i>subtus punctis fuscis notata.</i>	LEAVES opposite, sessile, heart-shaped, smooth, underneath dotted with brown.
PEDUNCULI oppositi, foliis fere duplo longiores, inflexi.	PEDUNCLES opposite, nearly twice the length of the leaves, bending downwards.
CALYX persistens, quinquepartitus, segmentis triangularibus, alatis, membranaceis, fig. 2.	CALYX persisting, divided into five segments, the segments triangular, and membranous at the edges, fig. 2.
COROLLA monopetala, quinquepartita, laciniis rotundis, coccineis, ad basin purpureis, margine crenatis, subpilosis, fig. 3, 4.	COROLLA monopetalous, quinquepartite, the laciniæ scarlet, purplish at bottom, the edges slightly notched, and hairy, fig. 3, 4.
STAMINA : FILAMENTA quinque, erecta, <i>pilossima, (pili articulati!)</i> superne purpurea : ANTHERÆ oblongæ, biloculares, flavæ, infidentes, fig. 5, 6.	STAMINA : five FILAMENTS, upright, and very hairy, (the hairs, when magnified, jointed!) at top purplish : the ANTHERÆ oblong, bilocular, yellow, and fitting on the filaments, fig. 5, 6.
PISTILLUM : GERMEN rotundum : STYLUS filiformis, <i>obliquus</i> , longitudine filamentorum : STIGMA subrotundum, <i>extra circulum staminum locatum</i> , fig. 7.	PISTILLUM : the GERMEN round : the STYLE filiform, the length of the filaments : the STIGMA roundish, placed without the circle of the Stamina, fig. 7.
PERICARPIUM : CAPSULA rotunda, nitida, quinquenervis, subdiaphana, circumscissa, fusca, fig. 8.	SEED-VESSEL, a CAPSULE, round, shining, brown, slightly transparent, having five nerves, dividing transversely into two equal parts, fig. 8.
SEMINA plurima, angulosa, fusca, fig. 9.	SEEDS numerous, brown, and angular, fig. 9.

NATURE seems to have taken uncommon pains in the formation of the flowers of this little plant ; few possess more liveliness of colour, or greater delicacy of structure ; this must be sufficiently obvious to every common observer ; but when its minute parts come to be viewed by the microscope, we are charmed with beauties altogether novel and unexpected ; we then find that the edges of the flowers, which to the naked eye appear a little uneven or hairy, are furnished with a number of little glands, placed on foot-stalks ; and that the hairs of the filaments, which partly tend to distinguish this genus, are regularly jointed : the pistillum, which generally rises upright betwixt the stamina, is here inclined to one side, so that the stigma is placed without the circle of the stamina. The care which nature has taken likewise in the preservation of these delicate parts from the injury of the weather, is not less remarkable. Every morning, if the weather be fair and warm, the blossoms fully expand ; but if rain falls, or there be much moisture in the air, the flowers quickly close themselves up, to secure the inclosed antheræ and stigma, from having their functions destroyed. From this property, which it has in common with many plants of the same class, it has acquired the name of the *Shepherd's*, or *Poor Man's Weather-glass*—They have remarked, that if the flowers be open in a morning, it will prove a fine day, if shut, the contrary.

The small Birds (*Passeres Linnaei.*) are fond of the seeds of this plant : and according to experiments made by some of LINNÆUS's pupils, it appears that Kine and Goats feed on it.

It is very common in gardens and corn-fields, flowering all the Summer.

A variety with four leaves at a joint, sometimes occurs in a rich soil ; but as it differs in no other part, and is a mere variety, it scarcely deserves a distinct figure. It is also found with blue, and sometimes with white flowers : but we have not observed either of these varieties near London.





*Anagallis arvensis.*







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**ROOT PERSONNEL** should be selected on the basis of a good knowledge of the business and the industry. The selection process should be based on the following criteria:

- 1. **EDUCATION**: A minimum of a high school diploma or equivalent is required. A college degree is preferred.
- 2. **EXPERIENCE**: At least two years of experience in a similar position is required. Experience in the automotive industry is a plus.
- 3. **SKILLS**: The candidate must have strong communication skills, both written and verbal. The ability to work independently and as part of a team is also required.
- 4. **PERSONALITY**: The candidate must be a self-starter, motivated, and able to handle pressure. A positive attitude and a willingness to learn are also important.

**FOOT-STEALERS** of the business should be identified and eliminated. The following steps should be taken:

1. **IDENTIFICATION**: Identify the foot-stealers in the business. This can be done through a review of sales records and a direct approach to the sales staff.
2. **ANALYSIS**: Analyze the behavior of the foot-stealers. Determine the reasons for their behavior and the impact on the business.
3. **ELIMINATION**: Eliminate the foot-stealers from the business. This can be done through a variety of methods, including termination, suspension, or reassignment.

**STAFFING** should be based on the needs of the business. The following steps should be taken:

1. **ANALYSIS**: Analyze the needs of the business. Determine the number of staff members required and the skills they must have.
2. **RECRUITING**: Recruit staff members from a variety of sources. This can include job openings, referrals, and direct hiring.
3. **TRAINING**: Train the staff members in the skills and knowledge required for the job. This can be done through a variety of methods, including on-the-job training, classroom training, and self-study.

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The goal of the program is to provide a comprehensive overview of the business and the industry. The program will cover the following topics:

- 1. **Business Overview**: A general overview of the business and the industry. This will include a discussion of the market, the competition, and the opportunities for growth.
- 2. **Financial Overview**: A general overview of the financial aspects of the business. This will include a discussion of the balance sheet, the income statement, and the cash flow statement.
- 3. **Marketing Overview**: A general overview of the marketing aspects of the business. This will include a discussion of the target market, the marketing mix, and the marketing budget.
- 4. **Operations Overview**: A general overview of the operations aspects of the business. This will include a discussion of the production process, the distribution process, and the customer service process.

The program will be presented in a series of four sessions. Each session will be approximately 90 minutes long. The sessions will be held on the following dates:

- 1. **Session 1**: Monday, June 1, 1981, 10:00 AM - 11:30 AM
- 2. **Session 2**: Tuesday, June 2, 1981, 10:00 AM - 11:30 AM
- 3. **Session 3**: Wednesday, June 3, 1981, 10:00 AM - 11:30 AM
- 4. **Session 4**: Thursday, June 4, 1981, 10:00 AM - 11:30 AM

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# CONVOLVULUS SEPIUM. LARGE WHITE CONVULVULUS OR GREAT BINDWEED.

CONVOLVULUS *Linnaei. Gen. Pl. PENTANDRIA MONOGYNIA.*

*Raii Syn. Gen. 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.*

CONVOLVULUS (*sepium*) foliis sagittatis, postice truncatis, pedunculis tetragonis, unifloris. *Linn. Syst. Vegetab. p. 168. Fl. Suecic. p. 64.*

CONVOLVULUS foliis sagittatis, hamis emarginatis, angulosis, petiolis unifloris, stipulis cordatis maximis. *Haller. hist. V. 1. p. 295.*

CONVOLVULUS Major albus. *Bauhin. pin. 294.*

SMILAX lævis major. *Gerard emac. 361. Parkinson. 163. Raii Syn. p. 275. Great Bindweed. Hudson. Fl. Angl. p. 74. Scopoli. Fl. Carniol. 141. Fl. Dan. icon. 458.*

RADIX perennis, crassitie pennæ anserinæ, alba, sub terra reptans et late se propagans, vix eradicanda, Hortorum pestis.

CAULES numerosi, volubiles, tortuosi, striati, orgyales, subramosi.

RAMI pauci, alterni, cauli similes.

FOLIA alterna, sagittata, postice truncata, glabra, petiolata.

PEDUNCULI uniflori, alterni, tetragoni.

CALYX INVOLUCRUM biphyllum, foliolis oblongo-cordatis, subcarinatis, venosis, purpurascens. *fig. 2.*

CALYX PERIANTHIUM pentaphyllum, tubulosum, foliolis ovato-lanceolatis, pallide virentibus. *fig. 1.*

COROLLA monopetala, infundibuliformis, lactea, limbo lato, obscure diviso, paululum reflexo.

STAMINA: FILAMENTA quinque, fundo corollæ inserta, hirsutula, alba, subulata; ANTHERÆ sagittatæ, albæ, infidentes. *fig. 3.*

PISTILLUM: GERMEN subovatum; STYLUS subulatus apice tortuosus; STIGMA bifidum. *fig. 4. 5.*

NECTARIUM: Glandula crocea annuliformis ad basin Germinis.

PERICARPIUM: CAPSULA subrotunda, fuliginosa, mucronata. *fig. 6. 7.*

SEMINA angulosa, fusca, Cotyledonibus mire convolutis. *fig. 8. 9.*

ROOT perennial, about the thickness of a goose quill, of a white colour, creeping under the ground and propagating itself exceedingly, rooted out with the greatest difficulty, and hence very troublesome in Gardens.

STALKS numerous, twining, twisted, striated, generally about six feet high and somewhat branched.

BRANCHES few, alternate, like the Stalk.

LEAVES alternate, arrow-shaped, apparently cut off behind, smooth, and placed on foot-stalks.

FOOT-STALKS of the flowers, alternate, supporting one flower only, and four square.

CALYX an INVOLUCRUM composed of two heart-shaped leaves, slightly keel-shaped, veiny, and purplish. *fig. 2.*

CALYX a PERIANTHIUM, composed of five leaves and tubular, the leaves of an oval pointed shape and pale green colour. *fig. 1.*

COROLLA monopetalous, funnel shaped, of a white colour, the limb broad, obscurely divided, and turned back a little.

STAMINA: five FILAMENTS inserted into the bottom of the corolla, slightly hairy, white and tapering, the ANTHERÆ arrow shaped, white, and sitting on the filaments. *fig. 3.*

PISTILLUM: GERMEN somewhat oval, STYLE tapering, twisted at top; the STIGMA bifid. *fig. 4. 5.*

NECTARY a yellow gland surrounding the base of the Germen.

SEED-VESSEL a roundish CAPSULE of a sooty colour and pointed. *fig. 9. 7.*

SEEDS angular and brown, the Cotyledons folded up in a very singular manner. *fig. 8. 9.*

The plant which produces the *Scammony* is a species of *Convolvulus*, very similar to that which we have now described, hence Dr. Cullen and some other Physicians have conjectured that our *Convolvulus* might possess similar properties, but if it should be found to contain such properties, the smallness of its roots would prevent its juice from being collected in the same manner with that which flows on incision from the large root of the *Scammony* plant, and which hardens and forms that purgative substance. Whether an extract made from the expressed juice of the roots, or any other preparation of them might possess a purgative property, or if it should, whether such a purgative would be so far superior to any now in general use as to introduce it deservedly into practice, is what we cannot pretend to decide on. Hogs are said to eat and even to be fond of the roots.

It grows exceedingly common in our hedges, and flowers in August and September. Where it has once gained ground it is with the greatest difficulty eradicated: was it not for this property and its being so common, it would doubtless be considered, as it really is, a very ornamental plant.

My ingenious Friend Mr. CHURCH, Surgeon, at Islington, (who has taken much pains to collect and acquire a knowledge of our English Insects) informs me that the Caterpillar of the *Phalæna Vibicaria* or *Bloody vein Moth*, (*vid. Clerc. Phalæn. pl. 3. fig. 2.*) feeds on this plant, and the *Sphinx Convolvuli* or *Unicorn Hawk Moth*, (*vid. Roefel. Cl. 1. pap. noct. t. 7.*) is well known to take its name from feeding on this plant also.





*Convolvulus Sepium.*













*Solanum Dulcamara.*



# SOLANUM DULCAMARA. WOODY NIGHTSHADE.

SOLANUM *Linnaei Gen. Pl.* PENTANDRIA MONOGYNIA.

*Raii Syn. Gen.* 16. HERBÆ BACCIFERÆ.

SOLANUM *Dulcamara* caule inermi frutescente flexuoso, foliis superioribus hastatis, racemis cymosis.

*Linn. Sp. Pl. p.* 264.

SOLANUM Scandens feu *Dulcamara*, *Baubin. Pin. p.* 176. Amara Dulcis, *Gerard. emac. p.* 350.

*Solanum lignosum*, *Parkinson. p.* 350. *Raii Synopsis. p.* 265. *Hudson. Flor. Angl. p.* 78.

*Scopoli Flor. Carniol. p.* 161. *Haller. Hist. Plant. Helv. p.* 248.

RADIX *perennis*.

CAULIS fruticosus, scandens, fistulosus, ramosus, tuberculis parvis subasper, leniter angulosus, orygalis et ultra.

RAMI alterni, juniores purpurei.

FOLIA petiolata, mollia, venosa, in caulem subdecurentia, inferiora ovata-lanceolata, integerrima; superiora trilobo-hastata.

FLORES in CYMAS racemosas dispositi; pedunculi florales ad basin bulbosi, aut ex acetabulo quasi prodeuntes.

CALYX: PERIANTHIUM monophyllum, parvum, quinquefidum, purpureum, segmentis obtusiusculis, persistens, *fig. 1.*

COROLLA monopetalata, rotata: TUBUS brevissimus; LIMBUS quinquepartitus, LACINIIS lanceolatis, purpureis, reflexis; FAUX nigra, nitida, ad basin singulæ lacinie maculæ duæ, virides, *fig. 3, 2.*

STAMINA: FILAMENTA quinque, brevissima, tubo Corollæ inserta, nigro purpurea. ANTHERÆ quinque, flavæ, erectæ, in tubum subconicum coalitæ, apicibus biforaminosis, *fig. 4, 5.*

PISTILLUM: GERMEN pyriforme: STYLUS subulatus, Staminiibus paulo longior: STIGMA simplex, obtusum, *fig. 6.*

PERICARPIUM: BACCA ovata, coccinea, glabra, bilocularis, receptaculo utrinque convexo, cui femina adnectuntur, *fig. 8.*

SEMINA plures, lutescentia, compressa, subreniformia, pulpo odoris ingrati oblecta, *fig. 9.*

ROOT *perennial*.

STALK woody, climbing, hollow, branched, thinly beset with small pointed tubercles, slightly angular, and growing to the height of six feet, or more.

BRANCHES alternate, the younger ones purple.

LEAVES standing on foot-stalks, of an oval pointed shape, soft, veiny, running slightly down the stalk, the lower ones entire, the upper ones halbert shaped.

FLOWERS growing in branched CYMÆ, the proper peduncles of the flowers bulbous at their base, or growing out of a kind of socket.

CALYX, a PERIANTHIUM of one leaf, small, and purple, divided into five segments, the segments bluntish, persisting, *fig. 1.*

COROLLA monopetalous, wheel-shaped; the TUBE very short; the LIMB divided into five segments, the SEGMENTS lancet-shaped, purple, and turning back; the MOUTH black and shining; at the bottom of each segment are two roundish green spots, *fig. 3, 2.*

STAMINA: five FILAMENTS, very short, of a black purple colour, and inserted in the tube of the Corolla. Five ANTHERÆ, yellow, upright, and uniting into a tube, with two holes at the top of each, out of which the POLLEN is discharged, *fig. 4, 5.*

PISTILLUM: the GERMEN pear-shaped: the STYLE tapering, a little longer than the Stamina: the STIGMA simple and obtuse, *fig. 6.*

SEED-VESSEL: an oval, scarlet, smooth BERRY, of two cavities, the receptacle to which the seeds is connected, is round on both sides, *fig. 8.*

SEEDS several, flat, somewhat kidney-shaped, *fig. 9,* of a yellowish colour, inclosed in the pulp, which has a disagreeable smell, *fig. 9.*

THE *Woody Nightshade* has been commended as a medicine for many distempers by the old Botanists, in their usually lavish manner: but PARKINSON says, he found the juice of it prove a very churlish purge. LINNÆUS prefers an infusion of the stalk of this plant to any of the foreign woods, as a cleanser of the blood; and recommends it in inflammatory fevers, obstructions, the itch, and rheumatism: and to render the knowledge of plants as extensively useful as possible, he does not think it beneath him to remark, that the *Swedish* Peasants make hoops of the stalk of this plant to bind their wooden cans. RAY informs us, that the inhabitants of *Westphalia*, who are subject to the scurvy, make use of a decoction of the whole plant as their common drink, with success against that distemper.

FLOYER says, that thirty berries of this plant killed a dog in less than three hours, and remained undigested in his stomach. As these berries, from their resemblance, may happen by mistake to be eaten for currants by children, it may not be improper to remark, that in such a case, it is adviseable to pour down instantly, as much warm water as possible, to dilute the poisonous juice, and provoke vomiting, till farther assistance can be had.

Goats and sheep are said to feed on this plant; but our other cattle, viz. kine, horses, and swine, refuse it.

It grows plentifully in moist hedges, and blows from July to August. The berries are ripe in September and October. It is sometimes found with a white flower.















# *Lonicera Periclymenum.*      Honeyfuckle or Woodbine.

LONICERA *Linnaei* Gen. Pl. PENTANDRIA MONOGYNIA.

*Raii Synops. ARBORES ET FRUTICES FRUCTU FLORI PETALOIDI CONTIGUO.*

LONICERA capitulis ovatis imbricatis terminalibus, foliis omnibus distinctis. *Lin. Sp. Pl.* 247.

PERICLYMENUM. *Fuschii. Icon.* 646.

PERYCLIMENUM non perfoliatum Germanicum. *Bauhin. Pin.* 302.

CAPRIFOLIUM Germanicum. *Dodon. Gerard. emac.* 891. *Parkinson.* 1460. *Raii Syn.* 458. *Hudson Fl.* 80.

*Haller. Hist.* 301. *Scopoli. Fl. Carniol. p.* 153.

CAULIS lignosus, volubilis, orgyalis et ultra; cortice pallide fusco; RAMI oppositi, purpurei.	STALK woody, twining, growing to the height of six feet or more, the bark a pale brown, the BRANCHES opposite and purple.
FOLIA opposita, ovata, glabra, subtus cærulescentia.	LEAVES opposite, oval, smooth, underneath of a blueish colour.
FLÖRES terminales, verticillatim dispositi, patentes, rubri, interne flavi, odoratissimi.	FLOWERS terminal, growing in a whirl, and spreading, externally red, internally yellow, and fragrant.
CALYX: PERIANTHIUM superum, brevissimum, quinquepartitum; segmentis ovato-lanceolatis, erectis, duobus inferioribus remotioribus, fig. 1.	CALYX, a PERIANTHIUM placed above the Germen, very short, divided into five segments, which are of an oval pointed shape, and upright, the two inferior ones most remote from each other, fig. 1.
BRACTEÆ subcordatæ, fig. 8, germina imbricatim cingentes, ad marginem præcipue scabræ, ut sunt calyx, et tubi basis pilis glanduliferis.	FLORAL-LEAVES laying one over the other, and closely embracing the Germina, reddish at the edges, and covered, as well as the Calyx and base of the tube, with glandular hairs, fig. 8.
COROLLA monopetala, tubulosa; TUBUS oblongus, subinfundibuliformis; LIMBUS bipartitus, laciniiis revolutis, superiore quadrifida, segmentis fere æqualibus, obtusis, inferiore integra, fig. 2.	COROLLA monopetalous and tubular, the TUBE long, and somewhat funnel-shaped; the LIMB bipartite; the lacinia rolling back, the upper one divided into four blunt and nearly equal segments, the lower one entire, fig. 2.
STAMINA: FILAMENTA quinque filiformia, corolla longiora, alba, tubo corollæ inserta, fig. 3: ANTHERÆ dum pollinem involvunt oblongæ, incumbentes, postea lunatæ, fig. 4.	STAMINA: five white FILAMENTS, of an equal thickness throughout, longer than the Corolla, and inserted into its tube, fig. 3: the ANTHERÆ, while they contain the Pollen, oblong, afterwards semilunar, and of a yellow colour, fig. 4.
PISTILLUM: GERMEN subrotundum, inferum, fig. 5. STYLUS filiformis, staminibus paulo longior, fig. 6: STIGMA capitatum, subrotundum, trifidum, viride, fig. 7.	PISTILLUM: the GERMEN roundish, and placed below the Calyx, fig. 5: the STYLE filiform, a little longer than the Stamina, fig. 6: the STIGMA roundish, trifid, and of a green colour, fig. 7.
PERICARPIA: BACCÆ plures, subrotundæ, rubræ, umbilicatæ, biloculares, omnes distinctæ, fig. 9.	SEED-VESSELS several roundish red BERRIES, having the remains of the Calyx adhering to them, and all distinct, fig. 9.
SEMINA plura, lutescentia, hinc convexa inde plana, fig. 10.	SEEDS several, of a yellowish brown colour, round on one side, and flattish on the other, fig. 10.

- THE early writers attributed virtues to this officinal plant, which the latter have been inclined to give up. As a medicine we must not expect much from it: but the beauty, singularity, and exquisite fragrance of its flowers, have long given it a place in our gardens. It is a climber, and turns from east to west with most of our other English climbers, and in common with them, it bears clipping and pruning well: for in a state of nature, those plants that cannot ascend without twining round others, are often liable to lose large branches; they have, therefore, a proportional vigour of growth to restore accidental damages. This plant is subject, when placed near buildings, to be disfigured, and injured, by small insects, called Aphides, or vulgarly blights: these animalculæ were formerly supposed to be brought by the east wind, and consequently the mischief was looked upon as inevitable; but observation has of late years corrected that error: their \*history is well known; but no effectual remedy against them, is as yet discovered. These insects are not very numerous in spring, but as the summer advances, they increase in a surprising degree: to preserve the plant therefore from injury, it is necessary to watch their first attacks, cut off and destroy the branches they first appear on; for when they have once gained ground, they are defended by their numbers. We have seen small plants cleared of them, by sprinkling Spanish snuff on the infected branches; but for large trees, this remedy is scarcely practicable. The leaves are likewise liable to be curled up by a small caterpillar, (*Phalena Tortrix, Linnaei.*) which produces a beautiful little moth: see ALBIN's history of English Insects, pl. 73. It is fed on by kine, goats, and sheep, but horses refuse it.

To shew the confusion of antient names it may not be improper to observe, that this plant and Woodroffe, (*Asperula odorata,*) have been both called *Matrifylva* by the old botanic writers. Our poets also, have strangely confounded the names of this plant. SHAKESPEAR says,

“ So doth the Woodbine the sweet Honeyfuckle  
“ Gently entwist.”

MILTON seems to call this plant *Eglantine*, although that is an undoubted name for the *Sweet Briar*.

“ Through the Sweet Briar, or the Vine,  
“ Or the twisted Eglantine.”

We find it plentifully in woods and hedges, flowering from July to September. Such plants as grow in shady places, produce blossoms of a paler colour, and they universally smell sweetest in the evening; at which time some particular species of *Sphinges*, (*Linnaei.*) or *Hawk Moths*, are frequently observed in gardens hovering over the blossoms, and with their long tongues, which are peculiarly adapted to the purpose, extracting honey from the very bottom of the flowers.

\*Vid. REAUMUR and GEOFFROY.













*Hedera Helix.*





# HEDERA HELIX. IVY.

HEDERA *Linnæi* Gen. Pl. PENTANDRIA MONOGYNIA. Petala quinque oblonga. Bacca quinquesperma calyce cincta.

*Raii Syn.* ARBORES ET FRUTICES FRUCTU FLORI PETALOIDI CONTIGUO.

HEDERA *Helix* foliis ovatis lobatisque. *Linn. Syst. Vegetab.* p. 202. *Sp. Pl.* 292. *Fl. Suecic.* p. 75.

HEDERA foliis sterilibus trilobatis, fructiferis ovato-lanceolatis. *Haller bist. helv.* n. 826.

HEDERA *Helix.* *Scopoli Fl. Carniol.* n. 271. *Hudson Fl. Angl* p. 85.

HEDERA arborea. *Baubin. Pin.* 305.

HEDERA poetica. *Baubin. Pin.* 305.

HEDERA major sterilis. *Baubin. Pin.* 305.

HEDERA humi repens. *Baubin. Pin.* 305.

HEDERA arborea five scandens et corymbosa communis. *Parkinson* 678.

HEDERA *Helix* Ger. Em. 858. *Raii Syn.* 459. Climbing or Berried Ivy: also Barren or Creeping Ivy:

TRUNCUS in arboribus hujus speciei senescentibus cortice rimoso cinereo vestitur, in novellis ramis viridis aut purpureus cernitur, fibrillas e latere interiori exerit, quorum ope proximis arboribus aut parietibus innixus alta petit.

FOLIA quam maxime varia, dum planta repit plerumque trilobata, quinquelobata etiam occurrunt; adnuculis derelictis, ovata fiunt; glabra, nitentia, nunc rubedine ornata, nunc venis albis picta, prefertim in ramulis junioribus.

FLORES lutescentes, in summitatibus caulium umbellatim dispositi, UMBELLÆ densæ, globosæ.

COROLLA: quinque, ovata, flavescentia, patentia.

STAMINA: FILAMENTA quinque longitudine Corollæ; ANTHERÆ basi bifidæ, incumbentes, fig. 1.

PISTILLUM: GERMEN turbinatum; STYLUS simplex, brevissimus; STIGMA simplex, fig. 2.

PERICARPIUM: BACCA globosa, nigra, intus purpurea, quadrilocularis aut quinquelocularis, coronata receptaculo et stylo conico brevi, loculis monospermis, fig. 3, 4.

SEMINA quinque, hinc gibba, inde angulata, fig. 6.

TRUNK; the trunk in trees of this species, which are old, is covered with an ash-coloured chopped bark, in the young branches it is of a green or purple colour; from the inside of the trunk a great number of small fibres are thrown out, by the assistance of which, it supports itself on the nearest walls and trees, and climbs aloft.

LEAVES as various as possible, while the plant creeps they are in general trilobate, sometimes quinquelobate, leaving its supporters, they become oval; smooth, shining, sometimes tinctured with red, sometimes painted with white veins, particularly in the young branches.

FLOWERS yellowish, growing on the top of the stalks in thick round UMBELS,

COROLLA: PETALS five, oval, yellowish and spreading.

STAMINA: five FILAMENTS the length of the Corolla; ANTHERÆ bifid at bottom, and incumbent, fig. 1.

PISTILLUM: GERMEN roundish; STYLE simple and very short; STIGMA simple, fig. 2.

SEED-VESSEL: a round BERRY, externally black, internally purple, with four or five cavities each containing one seed, crowned with the receptacle and short conic Style, fig. 3, 4.

SEEDS five, on one side gibbous, on the other angular, fig. 6.

The Hedera Helix begins to blow in sunny aspects towards the end of September, and according to situation blossoms on through October, and November. This plant is one of the last blowers, and is much resorted to by bees, and flies of various species, which swarm on its branches, and feed on its blossoms, making such a humming on sunny days as may be distinguished at a considerable distance.

The berries encrease in bulk gradually all through the winter months, and are full formed by February; in April they ripen and turn very black, and are eaten by several species of thrushes, and wild pigeons: Thus does fructification manifestly obtain in this instance all through the winter months, as well as in the mosses and lichens.

Sheep are very fond of Ivy, which in hard weather is a warm and wholesome food; and therefore shepherds in snowy seasons cut down branches for their flocks to browse on. Cato directs that in a scarcity of hay, cattle should be foddered with Ivy.

Professor KALM, in his travels through the greatest part of N. America, saw but one plant of Ivy, and that was running up the walls of a man's house: this specimen was probably carried thither by some European, who perhaps was desirous of propagating in that new world, a plant that might still recall to his mind the pleasing Idea of his native cottage, tufted with the foliage of this beautiful Evergreen.

The ancients held this plant in great esteem; their Heroes and Poets are described as wearing garlands composed of it. The supposition of its preventing intoxication is of very early date: Homer therefore mentions his Bacchus as Ivy-crowned, and often describes his Heroes drinking out of a Cup made of the wood of Ivy. (κισσυβιον.) Cato tells us that with a cup of this kind we may distinguish wine that has been adulterated with water, for the wine will be discharged and the water remain: to such an extravagant assertion has this grave author been probably led by relying on the supposed antipathy between the wine and ivy: This cup is still used in some parts of the kingdom as a remedy for a trembling hand; but rational practice has not admitted any part of the Hedera into the Materia Medica, Ivy-leaves however are said to be successfully applied to painful Corns. When it trails on the ground its branches are small and weak; and its leaves are divided into three lobes; but when it climbs walls or trees it grows much stronger, and the leaf changes to an oval form: these different appearances induced old Botanists to suppose there were two or three different species. In its variegated state it sometimes appears almost white, and may perhaps be the Hedera alba, and pallentes Hederae of VIRGIL.

Few people are acquainted with the beauty of Ivy when suffered to run up a stake, and at length to form itself into a standard, the singular complication of its branches, and the vivid hue of its leaves, give it one of the first places amongst evergreens in a shrubbery; In woods when suffered to grow large and rampant, this plant by twining round their bodies does great damage to timber trees; and therefore should be carefully destroyed: but in ornamented Out-lets, where evergreens do not abound, a few trees covered with Ivy have a very pleasing effect, and moreover induce birds of song to haunt those thickets for the sake of the berries and shelter.

In the Stump of Ivy many birds build their Nests particularly the Black-bird.

When Ivy is prejudicial, it may easily be destroyed, tho' it has spread to a great height, by cutting through its Trunk, and this shows that the fibres which the Stalk throws out in so singular a manner serve more to support than nourish it.

The soft wood of Ivy is made use of by Shoemakers to give a smooth edge to their cutting knives.













*Conium maculatum* L.



# CONIUM MACULATUM. HEMLOCK.

CONIUM *Linnaei Gen. Pl. PENTANDRIA DIGYNIA.*

*Raii. Syn. Gen. II. UMBELLIFERÆ HERBÆ.*

CONIUM *maculatum* feminibus striatis. *Linn. Syst. Vegetab. p. 229.*

CICUTA *Haller. Hist. helv. n. 766. v. 1. p. 337.*

CONIUM *maculatum. Scopoli Fl. Carniol. p. 207:*

CICUTA *major Baubin. Pin. 160.*

CICUTA *Gerard emac. 1061.*

CICUTA *vulgaris major Parkinson 933. Raii Syn. p. 215. Hudson Fl. Angl. p. 100. Störck. Cicut. Suppl. p. 7.*

t. 1.

**RADIX** biennis, crassitudine digiti, longa usque ad pedalem, in crura sæpe divisa, juniore Pastinacæ haud dissimilis, odoris gravis, et saporis subdulcis: secundo anno in caulescente planta succo fere caret, firma solidiorque evadit:

**CAULIS** orgyalis, teres, nitidus, lævis, fistulosus, ad basin crassitie pollicis, rore glauco tectus, et maculis sanguineis pictus, versus summitatem ramosus, et striatus.

**FOLIA** inferiora magna, etiam bipedalia, atro-virentia, nitentia, multiplicato-pinnata, pinnulis oblongis inciso-ferratis; SPATHA fulcata.

**INFLORESCENTIA.** *Umbella universalis* Radiis plurimis patentibus striatis; *partialis* confimilis.

**CALYX:** *Involucrum universale* e foliolis 5--7 constat, lanceolato-acuminatis, reflexis, margine albidis, fig. 1; *partiale* 3 aut 4 dimidiatis, extrorsum patentibus, fig. 2.

**COROLLA:** PETALA quinque, alba, inæqualia, inflexo-cordata, fig. 3.

**STAMINA:** FILAMENTA quinque, alba, longitudine Corollæ; ANTHERÆ albæ, fig. 3.

**PISTILLUM:** STYLI duo, albi, filiformes, non admodum breves; STIGMATA subrotunda; GERMEN inferum, striatum, fig. 3, 4.

**FRUCTUS** subrotundus, e binis feminibus fuscescentibus componitur, hinc planiusculis, illinc gibbis, cum striis quinque elevatis crenulatis, fig. 4, 5.

**ROOT** biennial, the thickness of ones finger, from six inches to a foot in length, frequently forked, and not unlike that of a young Parsnep, of a disagreeable smell and sweetish taste: in the second year of its growth when the plant has a flowering stem, it becomes drier, more firm and solid.

**STALK** about six inches high, round, shining, smooth and hollow, at bottom the thickness of ones thumb, covered with a blueish kind of powder which easily wipes off, and spotted with red, towards the top branched and striated,

**LEAVES.** The bottom leaves large, even two feet long, of a dark green colour and shining, many times pinnated, the pinnulæ oblong and sharply cut in; the SPATHA grooved.

**INFLORESCENCE.** The *Universal Umbell* is composed of many striated and spreading Radii; the *Partial Umbell* similar to it.

**CALYX:** the *Universal Involucrum* consists of 5 or 7 leaves, which are lanceolate, turned back, and whitish at the edges, fig. 1: the *Partial Involucrum* is composed of 3 or 4 leaves, which surround one half of the stalk only, and spread outward, fig. 2.

**COROLLA:** PETALS five, white, unequal, heart-shaped, and bent in at top, fig. 3.

**STAMINA:** FILAMENTS five, white, the length of the Corolla; ANTHERÆ white, fig. 3.

**PISTILLUM:** GERMEN beneath the Corolla, striated, fig. 3, 4; STYLES two, filiform and not very short; STIGMATA round, fig. 3.

**FRUIT** is roundish, and composed of two brownish seeds, flattish on one side and round on the other, with five notched and elevated ridges, fig. 4, 5.

THE powerfull deleterious properties of this herb have been long known and acknowledged by all botanic writers; whence it has been commonly ranged in the class of Vegetable Poisons. And as such active principles under skilful management, are likely to afford the most efficacious remedies, this plant has been also admitted as an article of the Materia Medica. Until lately however, the use of it was chiefly confined to external applications, where its narcotic qualities may undoubtedly assist in allwaging pain, forwarding suppuration, &c. But in the year 1760, Dr. STÖRCK, a famous Practitioner at Vienna, published a treatise on Hemlock, recommending an extract made of the inspissated juice of the herb to be taken internally, from four grains to sixty, or upwards, every day, as a cure for the *Schrophula*, *Cancer*, and others of the most terrible and inveterate disorders incident to the human body.

Our Physicians though laudably cautious of admitting or trusting to novelties, received Dr. STÖRCK's publication with uncommon ardour, and perhaps no new medicine was ever more immediately or generally tried than this *Extractum Cicutæ*. The success however not answering their expectation, led some to think they had mistaken the plant. The Author was applied to, and this produced a supplement (printed 1764) wherein the species is figured, and clearly shewn to be the *Conium maculatum* of LINNÆUS. It were to be wished this had cleared up all difficulties. In his first treatise the Doctor tells us that the fresh root sliced, yielded a bitter acrid milk, of which a single drop or two being applied to the tip of his tongue, presently rendered it painful, rigid, and so much swelled that he could not speak. Yet it is certain that the roots of our *Hemlock* may be chewed and swallowed in considerable quantities without producing any sensible effect. Mr. ALCHORNE (who I believe was the first that laudably exerted himself in investigating this matter,) assures me that he has tried this in every season of the Year, and in most parts of our Island, without finding any material difference: and that he



he has also been well informed both from *Berlin* and *Vienna*, that the *Hemlock* Roots in those countries, are no more virulent than ours about *London*. Mr. TIMOTHY LANE informs me, that he also with great caution made some experiments of the like kind, and in a short time found he could venture to eat a considerable part of a root without any inconvenience; after that, he had some large roots boiled, and found them as agreeable eating at dinner with meat, as Carrots, which they in taste somewhat resembled: and as far as his experience, joined with that of others informed him, the Roots might be cultivated in Gardens, and either eaten raw like Celery, or boiled as Parsneps or Carrots. That in Spring and Winter they are not woody as in Summer: that he has eaten them from different places and in all seasons; and that he perceived some roots were more pungent than others, but not in any degree worthy notice.

The experiments of these ingenious Gentlemen sufficiently evince the innocence of the roots of this plant, contrary to what has been asserted by Dr. STÖRCK, and hence we may infer that whatever accounts have been related by Authors of their poisonous qualities, the Roots of some other Plant must have been made use of. In the poisonous quality of the *Herb* however all Authors seem agreed, but with respect to its efficacy as a medicine they very much differ. If we may believe Dr. STÖRCK, there is scarce a disease incident to the human body which it either does not cure, or relieve; but it is remarkable that a copious experience of fifteen years, as well in the great Hospitals of this Metropolis as in the private practice of the whole Kingdom, should not have afforded one instance of a perfect cure by the Extract, at least none such has appeared among the valuable collections of cases published by our College of Physicians and other Medical Societies. Both Dr. FOTHERGILL of London, and the late Dr. RUTTY of Ireland, men of the greatest eminence in their profession, have declared that the success attending it has not been equal to what they had reason to expect from Dr. STÖRCK's account of it; (*vid. medical observations and enquiries, vol. 3.*) yet tho' it had failed them in the cure of many of those diseases which unfortunately were the *opprobria medicorum*, it had proved beneficial in various obstinate complaints; Scrophulous tumours were to appearance dissolved by it; the progress both of occult and ulcerated Cancers was retarded, the pain alleviated, and the discharge changed for the better in every respect; divers putrid and fordid Ulcers were by the use of *Hemlock* remarkably mended in their discharge, and disposed to heal, in some of which the Sublimate had been given in vain; hence the Extract is still frequently used, and will probably continue to be prescribed, because its effects as an Anodyne will often afford at least a temporary relief, and because in desperate diseases a doubtful remedy seems better than none at all.

The taking of the Extract is generally attended with a giddiness and often with a pain of the head, nausea, and other disagreeable symptoms; in some however its effects are apparently anodyne, as it eases pain and promotes rest even where Opium has failed.

Physicians seem somewhat divided about the best mode of exhibiting this medicine, some recommending the extract as being most easily taken in the form of pills, others the powder, as not being subject to that variation which the extract is liable to from being made in different ways. With respect to the period likewise at which the plant should be gathered, they seem not perfectly agreed, some recommending it when in its full vigour, and just coming into bloom, others when the flowers are going off and the whole plant has acquired a yellowish hue. That the Extract might be at all times equally active, and uniformly prepared, Dr. CULLEN has for many years recommended the making it from the unripe seeds, and this mode the College of Physicians at Edinburgh has thought proper to adopt in their new Pharmacopœia.

*Hemlock* grows very frequently on banks by the sides of Roads, by hedge sides, and in Fields and Gardens, flowering in the month of July.

We have a common English Proverb that *what is one Mans Meat is another mans Poison*, and agreeable to this are the lines of LUCRETIVS which relate to this plant;

“*Pinguescere sæpe Cicutâ*  
“*Barbigeros pecudes homini quæ est aere venenum.*”

That it affords nourishment to Birds likewise there is sufficient evidence, our learned Philosopher and accurate Naturalist Mr. RAY, found in the Crop of a Thrush abundance of *Hemlock* seeds, at a time too when other vegetable food might be had in abundance. It appears to be eaten by very few or no Insects.

The dried stems or kexes are used by Boys for various purposes.

The *Hemlock* is obviously distinguished from our other umbelliferous plants by its *large* and *spotted stalk*, by the *dark* and *shining green colour* of its *bottom leaves*, and particularly by their *disagreeable smell* when bruised, and which according to Dr. STÖRCK resembles that of Mice. The *Fools Parsley* and *Scandix* with *rough seeds* are the most likely to be mistaken for this poisonous plant, but may easily be distinguished if attention be paid to the descriptions and figures we have already given of them.









*Eriogonum cicutifolium.*



# ÆTHUSA CYNAPIUM. FOOL'S PARSLEY.

ÆTHUSA *Linnaei Gen. Pl. PENTANDRIA DIGYNIA.*

*Raii Syn. Gen. II. UMBELLIFERÆ HERBÆ.*

ÆTHUSA (*Cynapium*) foliis conformibus. *Linnaei Syst. Vegetab. p. 236. Flor. Suecic. p. 92.*

ÆTHUSA. *Haller. hist. n. 765.*

CICUTA minor petroselinio similis. *Baubin. Pin. p. 160.*

CICUTARIA Apii folio. *I. Baubin.*

CICUTARIA tenuifolia *Gerard. emac. 1063.*

CICUTA minor five fatua *Parkinson. 933. Raii Syn. p. 215. the lesser Hemlock or Fool's Parsley. Scopoli Fl. Carniol. p. 206. Hudson Fl. Angl. p. 107. Hill's British Herbal small Hemlock tab. 58. icon pessima.*

**RADIX** annua, fusiformis, alba; minimi digiti crassitudine, paucis fibris instructa.

**CAULIS** pedalis ad bipedalem, erectus, ramosus, striatus, fistulosus, glaucus, versus basin sæpe purpureus, non vero maculatus.

**FOLIA** radicalia et ramea conformia, lævia, superne atro-virentia, inferne pallidiora, nitentia, duplicato-pinnata, pinnis pinnatifidis, profunde incisfis, pinnulis ovato-acutis, mucronatis. *Vaginae* ad basin petiolorum parvæ, læves, marginibus membranaceis.

**PETIOLI** erecti, sulcati.

**UMBELLA** *universalis* patens, radiis interioribus per gradus brevioribus, intimis brevissimis; *partialis* *universalis* similis.

**INVOLUCRUM** *universale* nullum, *partiale* dimidiatum, extus positum, foliolis tribus longissimis linearibus pendulis, fig. 1.

**COROLLA**: PETALA quinque, alba, obcordata, inæqualia, apice inflexa, exteriora majora, fig. 2.

**STAMINA**: FILAMENTA quinque, alba, longitudine corollæ, inflexa: ANTHERÆ albæ, nonnunquam rubellæ, fig. 3.

**PISTILLUM**: GERMEN inferum, glandulâ virecente coronatum: STYLI duo, primum erecti, dein deflexi: STIGMATA obtusa, fig. 4.

**PERICARPIUM** nullum: FRUCTUS ovato-subrotundus, striatus, bipartibilis, fig. 5.

**SEMINA** duo, pallide fusca, hinc convexa, profunde striata, hinc plana, figurâ ovato-acutâ notata, fig. 6.

**ROOT** annual, tapering, of a white colour, about the thickness of the little finger, furnished with few fibres.

**STALK** from one to two feet high, upright, branched, striated or slightly grooved, hollow, covered with a blueish kind of powder which easily wipes off, towards the bottom frequently of a purple colour, but not spotted.

**LEAVES**: the bottom leaves and those of the branches similar, smooth, on the upper side of a dark green colour, underneath paler and shining, twice pinnated, the leaves pinnatifid and deeply cut in, the small leaves or pinnulæ oval and terminating in a fine point. The SHEATHS at the base of the foot-stalks small, smooth and membranous at the edges.

**FOOT-STALKS** of the flowers, upright and grooved.

**UMBEL**: the *universal umbel* spreading, the inner radii gradually shorter, the inmost very short; the partial umbel like the universal.

**INVOLUCRUM**: the *universal INVOLUCRUM* wanting, the *partial* one placed externally, and only furrounding one half of the umbel, composed of three very long, linear, and pendulous leaves, fig. 1.

**COROLLA**: five unequal, heart-shaped, white PETALS, bent in at top, the outer ones largest, fig. 2.

**STAMINA**: five white FILAMENTS the length of the Corolla, bending in: ANTHERÆ white, sometimes reddish, fig. 3.

**PISTILLUM**: GERMEN placed below the corolla, and crowned by a glandular substance of a greenish colour: two STYLES first upright, afterwards bending downward: STIGMATA blunt, fig. 4.

**SEED-VESSEL** wanting: the FRUIT or unripe seed of an oval roundish shape, striated, and dividing into two parts, fig. 5.

**SEEDS** two, of a pale brown colour, convex and deeply striated on one side, flat on the other, and marked with a figure of an oval pointed shape, fig. 6.

ONE of the principal advantages resulting to mankind from Botany, is the rightly ascertaining those plants which are used for food, from those which are known to be poisonous. It not unfrequently happens that both these kinds of Herbs grow in the same soil, nay often in the same bed together, and so similar are they in their general appearance, that the indiscriminating eye of the common observer readily mistakes the one for the other, and hence diseases fatal in their consequences sometimes ensue. To point out then the most obvious distinctions between such kinds of plants, is not only our business but our duty.

The Fool's Parsley seems generally allowed to be a plant which possesses poisonous qualities.

Baron HALLER has taken a great deal of pains to collect what has been said concerning it, and quotes many authorities to shew that this plant (on being eaten) has been productive of the most violent symptoms, such as anxiety, hiccough, and a delirium even for the space of three months, stupor, vomiting, convulsions and death: He suspects however that the common Hemlock may sometimes have had a share in producing these symptoms, as he finds in authors that the Fool's Parsley had been used by a whole family without any bad effect, although he imagines this might be owing to the smallness of the quantity eaten. As a corroborating proof of its deleterious quality, LINNÆUS asserts that it proves fatal to geese if they happen to eat it.

Altho' it seems rather doubtful whether it be so poisonous to mankind as is represented, yet it will perhaps be most prudent to consider it as such, until future experiments shall determine its effects with more certainty.

The plants to which this bears the greatest resemblance, are common Garden Parsley and common Hemlock, *Conium maculatum*; this similarity has been observed by most Botanic Writers, some of whom have called it a kind of Hemlock, others a kind of Parsley; it differs however considerably from both these Genera. The colour of its leaves alone, is nearly sufficient to distinguish it from Parsley; those of common Parsley are of a yellowish green colour, those of Fool's Parsley of a very dark green, and much more finely divided; the leaves of Parsley when bruised have a strong but not disagreeable smell, those of Fool's Parsley have very little smell in them. These marks if attended to are sufficient to distinguish the leaves of these two plants, and in the state of leaves they are most liable to be taken for one another, as they grow together in Gardens. Where much Parsley is used, the Mistress of the house therefore would do well to examine the Herbs previous to their being made use of; but the best precaution will be always to sow that variety called curled Parsley, which cannot be mistaken for this or any other plant.

It is distinguished from Hemlock by being in every respect smaller, and not having that strong disagreeable smell which characterizes the leaves of that plant; the stalk likewise is not spotted as in the Hemlock; and lastly it is distinguished from all our umbelliferous plants by the three long, narrow, pendulous leaves which compose its partial Involucrum, and which are placed at the bottom of each of the small Umbels.

It grows very common in Gardens, and all kinds of cultivated ground, and flowers in July and August.













*Scandix Anthriscus*



# SCANDIX ANTHRISCUS. SCANDIX WITH ROUGH SEEDS.

SCANDIX *Linnaei Gen. Pl.* PENTANDRIA DIGYNIA

*Raii Syn. Gen.* II. UMBELLIFERÆ HERBÆ

SCANDIX *Anthriscus* feminibus ovatis hispidis, corollis uniformibus, caule laevi. *Linnaei Syst. Vegetab.* p. 237. *Flor. Suecic.* p. 93.

CAUCALIS vaginis lanuginosis, foliis triplicato-pinnatis, feminibus rostratis. *Haller hist. n.* 743.

MYRRHIS fylvestris, feminibus asperis. *Baubin pin.* 160. *Parkinson* 935. *Ger. emac.* 1038. *Raii Syn.* p. 220. Small Hemlock-Chervil with rough Seeds. *Hudson Fl. Angl.* p. 108. *Jacquin Flor. Austriac Vol. 2.* p. 35. *tab.* 154.

RADIX annua, parva, albida, subinfrapida.

CAULIS pedalis ad tripedalem, sæpe altior, suberectus, teres, fistulosus, laevis, ad genicula tumidus et substriatus, plerumque viridis.

FOLIA. Vaginæ ad basin foliorum magnæ, marginibus lanuginosis; Folia mollia, tenera, multiplicate pinnata, hirsutula, ex luteo-virentia.

INFLORESCENTIA *Umbella*. UMBELLÆ obliquæ, pedunculatæ: Pedunculus universalis RADIIIS brevior, RADII universales 3—5. glabri, *partiales* 2—6.

CALYX: *Involucrum universale* nullum. *Partiale* plerumque pentaphyllum, foliolis lanceolato-acuminatis, ciliatis, persistentibus *fig.* 1.

COROLLA: PETALA quinque, minima, subæqualia, alba, subcordata, apicibus inflexis. *fig.* 2.

STAMINA: FILAMENTA quinque, petalis paulo breviora; ANTHERÆ primum virides, dein fuscæ *fig.* 3.

PISTILLUM: GERMEN oblongum, inferum, subcompressum, hirsutum, STYLI duo breves. *fig.* 5.

SEMINA duo, oblonga, e fusco-nigricantia, hinc sulcato-plana, inde convexa, rostrata, pilis rigidis hamatis undique aspera *fig.* 6.

ROOT annual, small, whitish, with little taste.

STALK from one to three feet high, frequently taller, nearly upright, round, hollow, smooth, swelled and slightly striated at the joints, and most commonly green.

LEAVES. The sheaths formed by the base of the leaves are large and downy at the edges: the leaves soft, tender, many times pinnated, slightly hairy, and of a yellowish green colour.

INFLORESCENCE an *Umbell*, the UMBELLs oblique, standing on footstalks, the general or universal footstalk shorter than the RADII; the *universal* RADII from 3 to 5, the *partial* RADII from 2 to 6.

CALYX. The *universal Involucrum* wanting, the *Partial* one generally composed of five leaves, which are pointed, hairy at the edges, and continue. *fig.* 1.

COROLLA: five PETALS very minute, nearly equal, white, somewhat heart shaped, the tips bending in, *fig.* 2.

STAMINA: five FILAMENTS, a little shorter than the Petals; the ANTHERÆ first green, afterwards brown, *fig.* 3.

PISTILLUM: the GERMEN oblong, placed beneath the Corolla, flattish, and rough, two STYLES very short *fig.* 5.

SEEDS two, oblong, of a dark brown colour, on one side flat and grooved, on the other convex, running out to a point, and prickly with stiff hooked hairs, *fig.* 6.

THE great similarity in the external appearance of a great number of umbelliferous plants, frequently hath been the cause of mistakes, which have sometimes proved hurtful to the health of individuals. At the same time that there is no class of plants which, at first sight, appears to the young Botanist more difficult of investigation than this, there is none perhaps which affords more constant, or more certain marks of generic and specific difference. Obvious distinctions may be drawn from the *Stalk* and *Leaves*: in some the stalk is smooth in others, rough; and in others, more or less deeply channeled; in some the leaves are very finely divided; and in others, but coarsely so; but the parts of *Fruetification* afford the most pleasing, and scientific, distinguishing marks. The absence, or presence of the general and partial *Involucrum* the number, shape, and situation of its leaves, the number of the *Radii* which compose the umbell, the size and equality of the *Petals*, and the very different appearances of the *Seeds*, all unite to render a knowledge of these plants easily acquired.

Some of the *Umbelliferi* are used in food, and others in medicine; the greatest care will therefore be necessary in the drawing and description of these; and in this, no one seems to have succeeded so well as the celebrated JACQUIN. In the first and second volumes of his *Flora Austriaca*, lately published, and which indeed are a most valuable addition to the stock of botanic knowledge, a great number of these plants are figured and described.

This plant grows very common on dry banks and in hedges, flowers from the beginning to the end of May, and the seeds are ripe in June. When it becomes luxuriant, as it sometimes will from growing in a moist situation, it puts on somewhat the appearance of the common Hemlock, but may easily be distinguished from that poisonous plant, if attention be paid to the following particulars: The leaves of the Hemlock are perfectly smooth; these have a slight hairiness, are more finely divided, and of a paler green; the stalk of the Hemlock is spotted; this is not; the Hemlock has a general involucre, which in this plant is wanting; the seeds of the Hemlock are smooth, and these are rough; the Hemlock has a strong disagreeable smell; this not disagreeable, but more like Chervil, to which in its virtues it should seem nearest allied.

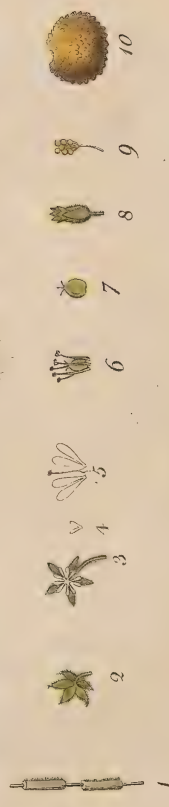












*Alone media*



# ALSINE MEDIA. COMMON CHICKWEED.

ALSINE *Linnaei Gen. Pl.* PENTANDRIA TRIGYNIA.

*Cal.* 5-phyllus. *Petala* 5-æqualia. *Caps.* 1-locularis, 3-valvis.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

ALSINE *media. Linnaei Syst. Vegetab. p.* 246. *Flora Suecic. p.* 37.

ALSINE *foliis petiolatis, ovato lanceolatis, petalis bipartitis. Haller hist. helv. n.* 886.

ALSINE *media. Scopoli Fl. Carniol. n.* 376.

ALSINE *media. Baubin pin. p.* 250.

ALSINE *media seu minor. Gerard emac.* 611. *Raii Syn. p.* 347, Common Chickweed. *Hudson Fl. Angl. p.* 113. *Oeder Fl. Dan.* 525, 438.

RADIX annua, fibrosa, capillacea.

CAULES plures, tenelli, teretes, subrepentes, ramosi, viticulis geniculati, *unifariam hirsuti*, apicibus fensum incrassatis.

FOLIA ovato-acuta, glabra, leviter ciliata; inferiora petiolata, superiora sessilia, connata.

PETIOLI ad basin latiora, hirsuti.

PEDUNCULI uniflori, axillares, hirsuti, peractâ florentiâ penduli, demum erecti.

CALYX: PERIANTHIUM pentaphyllum, foliolis lanceolatis, concavis, subcarinatis, marginatis, hirsutis, *Petalis longioribus, fig.* 1.

COROLLA: PETALA quinque, alba, nitida, ad basin fere partita, *fig.* 3, 4, 5.

STAMINA: FILAMENTA quinque, alba, inter Petala locata, Glandulâ ad basin instructa; ANTHERÆ subrotundæ, purpurascens, *fig.* 5, 6.

PISTILLUM: GERMEN subovatum; STYLI tres filiformes; STIGMATA simplicia, *fig.* 7.

PERICARPIUM: CAPSULA unilocularis, in valvulas sex dehiscens, *fig.* 8.

SEMINA octo ad quindecim, subreniformia, aspera, e fusco-aurantiaca, pedicellis receptaculo connexa, *fig.* 9, 10, auct.

ROOT annual, fibrous, capillary.

STALKS numerous, tender, round, striking root here and there, branched, jointed and stringy; *hairy on one side only*, growing thicker towards the top.

LEAVES of a pointed oval shape, smooth, slightly hairy at the edges, the lowermost standing on foot-stalks, the uppermost sessile, connate.

FOOT-STALKS of the leaves broadest at bottom, and hairy.

FOOT-STALKS of the flowers, each sustaining one flower, proceeding from the bosoms of the leaves, hairy, when the flowering is over hanging down, finally becoming upright.

CALYX: a PERIANTHIUM of five leaves, each of which is lanceolate, concave, slightly keel-shaped at bottom, with a margin at the edge, hairy, and longer than the Petals, *fig.* 1.

COROLLA consists of five white shining PETALS, divided nearly to the base, *fig.* 3, 4, 5.

STAMINA: five white FILAMENTS, placed betwixt the Petals, furnished at bottom with a little Gland; ANTHERÆ roundish, of a purplish colour, *fig.* 5, 6.

PISTILLUM: GERMEN somewhat oval; STYLES three, filiform; STIGMATA simple, *fig.* 7.

SEED-VESSEL a CAPSULE of one cavity, splitting into six valves, *fig.* 8.

SEEDS from eight to fifteen, somewhat kidney-shaped, of a brownish orange colour, with a rough surface, connected to the receptacle by little foot-stalks, *fig.* 9, 10, magnified.

CHICKWEED being a plant which will grow in almost any situation, is consequently liable to assume many different appearances: when it grows in a rich soil, and shady situation, it will frequently become so large as to resemble the *Cerastium aquaticum*; while at other times, on a dry barren wall, its leaves and stalks will be so minute, as to make the young botanist take it for some species different from the common Chickweed: happily however it affords marks which if attended to, will readily distinguish it from the *Cerastium*, and every other plant: exclusive of its differing from the *Cerastium* in its generic character, its Petals are shorter than the leaves of its Calyx; while in the *Cerastium* they are longer; hence a considerable difference will be observable at first sight in the size of the flowers of these two plants: and from all other plants related to it, it may be distinguished by the singular appearance of its stalk, which is *alternately hairy on one side only*.

The most common number of its Stamina with us is five; yet I have often seen it with less, and sometimes with more; and this inconstancy in the number of its Stamina has been noticed by most botanic writers: GOUAN, in his *Flor. Monspel.* mentions from 3 to 10, with as many Pistilla; this circumstance with respect to the number of its Stamina, unfortunately separates it from other plants with which it appears to have by nature a very near relation: but as five Stamina appear to be its most constant number, LINNÆUS could not have placed it amongst those plants with ten Stamina, without doing violence to his system.

Of annual plants there are few more troublesome: it sows itself plentifully in the summer, and remains green throughout the winter, flowering during the whole time, if the weather be mild: but its chief season for flowering is in the spring. In rich garden mould, where the ground is highly cultivated, and in the fields about town, it does a deal of mischief: by the quickness of its growth and the great number of its shoots, it covers and chokes many young plants; hence it should be carefully weeded from dunghills.

The seeds are very beautiful, and have the greatest affinity to those of the *Cerastium aquaticum*.

When the flowers first open, the foot-stalks which support them are upright; as the flowers go off they hang down; and when the seeds become ripe, they again become erect.

LINNÆUS has observed that the flowers open from nine in the morning till noon, unless rain falls on the same day, in which case they do not open: from what little observations I have made on this plant, it is not subject to be affected precisely in the same manner here, having seen in the month of March, the blossoms continue rather widely expanded after repeated showers of rain.

It is considered as a wholesome food for Chicken and small Birds, whence, as RAY observes, it has obtained its name: boiled it resembles Spinach so exactly as scarcely to be distinguished from it, and is equally wholesome, being a plant which may be procured almost any where very early in the spring, it may be no bad substitute where Spinach or other greens are not to be had in plenty, and much preferable to Nettle-tops and other plants which the lower sort of people seek after in the spring with so much avidity. Swine are very fond of it, and prefer it to Turnep-tops. It is eaten by many Insects, particularly by the Caterpillar of the *Phalena Villica* or Cream Spot Tyger Moth, and other hairy Caterpillars of the Tyger kind.

As a medicine it contains no active principle; but is frequently applied to hot, painful, and inflammatory swellings, either by itself, bruised, or mixed with poultices, with good success.



# REPORT OF THE COMMISSIONER OF THE GENERAL LAND OFFICE

FOR THE YEAR 1881

ALBANY, N. Y., 1882

PRINTED BY THE COMMISSIONER OF THE GENERAL LAND OFFICE

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# ERICA TETRALIX. CROSS-LEAVED HEATH.

ERICA *Linnaei Gen. Pl.* OCTANDRIA MONOGYNIA.

*Cal.* 4-phyllus. *Cor.* 4-fida. *Filamenta* receptaculo inserta. *Antherae* bifidae.

*Caps.* 4-ocularis.

*Raii Syn.* ARBORES ET FRUTICES.

ERICA *tetralix* foliis quaternis ciliatis, floribus capitatis imbricatis.

ERICA *tetralix*, antheris aristatis, corollis ovatis, stylo incluso, foliis quaternis ciliatis, floribus capitatis.

*Linn. Syst. Vegetab. p.* 302. *Fl. Suecic. n.* 337.

ERICA ex rubro nigricans scoparia. *Baubin Pin.* 486.

ERICA Brabantica folio Coridis hirsuto quaterno. *I. B. I.* 358.

ERICA pumila Belgarum Lobelio, scoparia nostras. *Parkinſon.* 1482.

ERICA major flore purpureo. *Gerardemac.* 1382 *Raii Syn. p.* 471, Low Dutch Heath or Besome Heath.

*Hudson Fl. Angl. p.* 144. *Oeder Fl. Dan. icon.* 81.

CAULES fruticosi, dodrantes aut pedales, ramosi, fusci, scabriusculi ex relictamentis foliorum.

FOLIA *quaterna*, ovato-linearia, patentia, prope flores cauli adpressa, marginibus inflexis, *ciliatis*, ciliis glandula terminatis, superficie superiore plana, inferiore concava.

FLORES secundi, imbricati, in capitulum congesti, carnei.

CALYX: PERIANTHIUM hexaphyllum, foliolis hirsutis, duo inferiora ovato-lanceolata, caetera linearia, *fig.* 2.

COROLLA ovata, monopetala, ore quadrifido, laciniis reflexis, *fig.* 3.

STAMINA: FILAMENTA octo, subulata, alba, corolla breviora, receptaculo inserta; ANTHERAE sagittatae, conniventes, purpureae, biforaminosae, bicornes, *fig.* 4, 5, 6.

PISTILLUM: GERMEN cylindraceum, subfulcatum, villosum, glandula ad basin cinctum, *fig.* 7, 8; STYLUS filiformis, purpurascens, *fig.* 9; STIGMA, obtusum, *fig.* 10.

PERICARPIUM: CAPSULA subrotunda, villosa, apice truncata, quadrivalvis, *fig.* 11, 12.

SEMINA plurima, minuta, flavescencia, *fig.* 13, 14.

STALKS shrubby, about nine or twelve inches high, branched, roughish from the remains of the leaves which have fallen off.

LEAVES growing by fours, of an oval-linear shape, spreading, near the flowers pressed close to the stalk, the edges turned in and *ciliated or hairy*, each of the hairs terminating in a small round globule, the upper surface flat, the inferior surface concave.

FLOWERS hanging down one over another all one way, forming a little head, of a pale red colour.

CALYX: a PERIANTHIUM of six leaves, the leaves hairy, the two lowermost of an oval-pointed shape, the rest linear, *fig.* 2.

COROLLA oval, monopetalous, the mouth divided into four segments, which turn back, *fig.* 3.

STAMINA: eight FILAMENTS, tapering, white, shorter than the Corolla, inserted into the receptacle; ANTHERAE arrow-shaped, closing together, purple, having two apertures for the discharge of the Pollen, and two little horns, *fig.* 4, 5, 6.

PISTILLUM: GERMEN cylindrical, slightly grooved, villous, surrounded at bottom by a gland, *fig.* 7, 8; STYLE filiform, purplish, *fig.* 9. STIGMA blunt, *fig.* 10.

SEED-VESSEL: a roundish CAPSULE covered with a kind of down, cut off as it were at top, having four valves, *fig.* 11, 12.

SEEDS numerous, minute, and yellowish, *fig.* 13, 14.

THIS species of *Heath*, though not applicable to such a variety of uses as some of the others, is not inferior to any of them in the beauty and delicacy of its flowers, which in general are of a pale red colour, but sometimes they occur entirely white.

It is obviously enough distinguished from the rest, not only by its flowers growing in a kind of pendulous cluster on the tops of the stalks, but by its leaves also, which growing by fours on the stalk, form a kind of cross; these are edged with little stiff hairs, each of which has a small globule at its extremity.

At the latter end of the Summer it contributes its share with the others to decorate and enliven those large tracts of barren land which too often meet the eye in many parts of this kingdom.

It delights to grow in a moister situation than some of the others, and will thrive well enough in gardens; if taken up either in Spring or Autumn with a quantity of earth about its roots: this is necessary, as the *Heaths* in general bear transplanting ill.





*Erica tetralix*











# POLYGONUM BISTORTA. THE GREATER BISTORT OR SNAKE-WEED.

POLYGONUM *Linnaei Gen. Pl. OCTANDRIA TRIGYNIA.*

*Raii Synopsis, Genus quintum. HERBÆ FLORE IMPERFECTO SEU STAMINEO, (VEL APETALO POTIUS.)*

POLYGONUM *Bistorta* caule simplicissimo, monostachyo, foliis ovatis in petiolum decurrentibus. *Linnaei Syst. Vegetab. p. 311.*

POLYGONUM radice lignosa contorta, spica ovata, foliorum petiolis alatis. *Haller. Hist. v. 2. 258.*

COLUBRINA Seu Serpentaria foemina. *Fuschii icon. 774.*

SERPENTARIA mas five Bistorta. *Fuschii icon. 773.*

BISTORTA major radice minus intorta. *Baubin. Pin. 192.*

BISTORTA major radice magis intorta. *Baubin. Pin. 192.*

BISTORTA major *Gerard emac 399. major vulgaris Parkinson 391. Raii Synopsis 147. Hudson. Fl. Angl. 146. Flor. Dan. Ic. 421.*

<b>RADIX</b> perennis, crassitie digiti, plus minusve intorta, externe castanea, interne carnea, fibris et stolonibus plurimis instructa.	<b>ROOT</b> perennial, the thickness of one's finger, more or less crooked, externally of a chesnut, internally of a flesh colour, furnished with numerous fibres and creepers.
<b>CAULIS</b> pedalis aut bipedalis, <i>simplex</i> , suberectus, solidus, articulatus, (geniculi tumidi) teres, laevis.	<b>STALK</b> from one to two feet high, <i>simple</i> , nearly upright, solid, jointed, (the joints swelled,) round and smooth.
<b>STIPULÆ</b> vaginantes, apice membranacæ, <i>marcescentes</i> , ore obliquo.	<b>STIPULÆ</b> enclosing the Stalk as in a sheath, at top membranous, <i>withered</i> , the mouth oblique.
<b>FOLIA</b> cordato-lanceolata, undulata, subtus cærulescentia, glabra, inferiora in petiolo decurrentia, superiora amplexicaulia in stipulas desinentia.	<b>LEAVES</b> : the bottom leaves somewhat heart shaped and pointed; waved at the edges, smooth, underneath blueish and continued down the footstalks, the upper leaves embracing the stalk, and terminating in the stipulæ.
<b>FLORES</b> spicati, spica oblongo-ovata, densa.	<b>FLOWERS</b> growing thickly in a spike, the spike of an oblong oval shape.
<b>BRACTEÆ</b> membranacæ, marcescentes, biflores, bivalvæ, valvula inferiore tricuspidata cuspidata medio longiore quasi aristata, flores pedicellati, pedicellis calyce longioribus.	<b>FLORAL LEAVES</b> membranous, and withered, containing two flowers and having two valves, the lower valve three pointed, the middle point running out into a kind of arista or beard, the flowers growing on footstalks which are longer than the Calyx.
<b>CALYX</b> five <b>COROLLA</b> subovata, quinquepartita, carnea, laciniis ovatis, obtusis, concavis. <i>fig. 1. 3.</i>	<b>CALYX</b> OR <b>COROLLA</b> , of an oval shape and flesh coloured, divided into five segments, which are oval, obtuse, and concave. <i>fig. 1. 3.</i>
<b>STAMINA</b> : <b>FILAMENTA</b> octo, subulata, alba, corollâ longiora, <b>ANTHERÆ</b> biloculares, purpurascens, incumbentes. <i>fig. 2.</i>	<b>STAMINA</b> : eight <b>FILAMENTS</b> , tapering, white, and longer than the Calyx; the <b>ANTHERÆ</b> bilocular, purplish, and laying across the filaments. <i>fig. 2:</i>
<b>PISTILLUM</b> : <b>GERMEN</b> triquetrum, sanguineum, <b>STYLIS</b> tres longitudine staminum; <b>STIGMATA</b> parva, rotunda. <i>fig. 5. 6. 7.</i>	<b>PISTILLUM</b> the <b>GERMEN</b> three square, of a deep red colour, three <b>STYLES</b> the length of the Stamina; the <b>STIGMATA</b> small and round. <i>fig. 5. 6. 7.</i>
<b>NECTARIUM</b> : glandulæ rubræ in fundo calycis, <i>fig. 4.</i>	<b>NECTARIUM</b> : several small red glands in the bottom of the Calyx. <i>fig. 4.</i>
<b>SEMEN</b> triquetrum, fuscum, mucronatum, nitens, vernice quasi obductum. <i>fig. 8.</i>	<b>SEED</b> : triangular, brown, pointed, and shining as if varnished. <i>fig. 8.</i>

WHEN a Plant not intended to be cultivated, in any respect prevents the growth of one which is the object of Cultivation, such a plant, however beautiful, may with propriety be called a Weed; nor will the elegance or utility of the Bistort, secure it in the estimation of the Farmer, from that appellation.

This Plant generally grows in moist Meadows, and flowers in May and June; when it has once taken root, it propagates very fast, and frequently will form large patches, to the exclusion of a considerable portion of the Grass; nor is it destroyed but with the greatest difficulty. Happily, our Farmers about Town are pretty much strangers to this Plant, as it is met with but rarely. It grows plentifully in a Meadow by the side of *Bishop's Wood* near *Hampstead*, and my obliging Friend Dr. ALLEN informs me he has found it about *Battersea*.

As an astringent Medicine, the Bistort appears to possess considerable virtue, and as such may with propriety be made use of in all cases where astringents are required; but more particularly in long continued evacuations from the Bowels, and other discharges both ferous and sanguineous. It is recommended also to fasten teeth which are loose, and may be used either in powder, infusion, or extract. If it could be procured in sufficient quantity to make it answer, it might well be applied to the purpose of tanning Leather.

In some parts of England the leaves are eat as a Pot-herb.





*Polygonum Bistorta.*

*Salomon-Jacob & Söhne*













*Polygonum Persicaria.*

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*Polygonum persicaria*



# POLYGONUM PERSICARIA. COMMON SPOTTED PERSICARIA.

POLYGONUM	<i>Linnaei Gen. Pl.</i> OCTANDRIA TRIGYNIA. <i>Raii Syn. Gen.</i> 5 HERBÆ FLORE IMPERFECTO SEU STAMINEO, VEL APETALO POTIUS.
POLYGONUM	<i>Persicaria</i> floribus hexandris femidigynis, pedunculis lævibus, stipulis ciliatis, spicis ovato-oblongis erectis.
POLYGONUM	<i>Persicaria</i> floribus hexandris digynis, spicis ovato-oblongis, foliis lanceolatis, stipulis ciliatis, <i>Lin. Syst. Vegetab.</i> p. 312. <i>Flor. Suecic.</i> p. 130.
POLYGONUM	foliis ovato-lanceolatis, subhirsutis, spicis ovatis, vaginis ciliatis. <i>Haller. hist. Helv.</i> v. 2. p. 257.
PERSICARIA	mitis maculosa et non maculosa. <i>Baubin. Pin.</i> p. 101.
PERSICARIA	maculosa <i>Gerard. emac.</i> 445. vulgaris mitis seu maculosa. <i>Parkinson.</i> 856. <i>Raii Syn. ed. 3.</i> p. 145. n. 4. Dead or spotted <i>Arfmar.</i> <i>Hudson Flor. Angl.</i> p. 147. n. 4. <i>Scopoli Fl. Carniol.</i> p. 279.
RADIX	simplex, fibrosa.
CAULIS	erectus, ad basin aliquando repens, pedalis ad tripedalem, ramosus, teres, glaber, ad geniculos sensim incrassatus, sæpe rubens: sub geniculis puncta radicalia discernantur quamvis huic speciei non propria.
RAMI	alterni, e singulo geniculo prodeuntes, patentes, sæpe diffusi.
STIPULÆ	vaginantes, liquore viscido sæpe repletæ, ciliatæ.
FOLIA	lanceolata, subpetiolata, margine nervoque medio subhirsutis, utrinque lævia, maculæ ferrum equinum quodammodo referente sæpius notata.
PEDUNCULI	læves.
FLORES	spicati, rosei, Spicæ terminales, erectæ, subovatæ.
CALYX:	PERIANTHIUM quinquepartitum, coloratum, persistens, segmentis ovatis obtusis, <i>fig.</i> 1, 2.
COROLLA	nulla.
STAMINA:	FILAMENTA sex fundo calycis inserta longitudine corollæ ANTHERÆ rubentes, <i>fig.</i> 2.
PISTILLUM:	GERMEN ovatum, compressum, aut triquetrum, <i>fig.</i> 3, 6. STYLUS ad medium usque bifidus sæpe trifidus, <i>fig.</i> 5, 8. STIGMATA duo aut tria subrotunda, <i>fig.</i> 4, 7.
SEMEN	unicum, nitidum, aut subovatum, acuminatum, ad unum latus leviter convexum; <i>fig.</i> 9, 11, aut trigonum, <i>fig.</i> 10, 12.
ROOT	simple and fibrous.
STALK	upright, sometimes creeping at bottom, from one to three feet high, branched, round, smooth, gradually thicker at the joints, often of a red colour: a little beneath each joint some radical points are observable, which however are not peculiar to this species.
BRANCHES	alternate, proceeding from each joint, spreading, frequently very much so.
STIPULÆ	embracing the stalk, frequently full of a viscid liquid, and terminated by long cilia or hairs.
LEAVES	lanceolate, with short foot-stalks, the edge and midrib slightly hairy, smooth on both sides, in general having a large spot on the middle of the leaf somewhat like a horse shoe.
FOOT-STALKS	of the flowers, smooth.
FLOWERS	growing in spikes, of a bright rose colour, the spikes terminal, upright, of a somewhat oval shape.
CALYX:	a PERIANTHIUM divided into five segments, coloured, and persisting, the segments oval and obtuse, <i>fig.</i> 1, 2.
COROLLA	wanting.
STAMINA:	six FILAMENTS inserted into the bottom of the Calyx, the length of the Corolla; the ANTHERÆ reddish, <i>fig.</i> 2.
PISTILLUM:	GERMEN oval and flat, or three-square, <i>fig.</i> 3, 6. STYLE divided down to the middle into two, often into three parts, <i>fig.</i> 5, 8. STIGMATA two or three, and round, <i>fig.</i> 4, 7.
SEED	one, shining, either of an oval pointed shape and slightly convex on one side, <i>fig.</i> 9, 11. or three-square, <i>fig.</i> 10, 12.

The very great similarity which exists between the several species of the Polygonums, has occasioned no small degree of trouble to Botanists, in rightly ascertaining the limits of each Species and Variety; a difficulty not to be overcome while Books are consulted more than Nature. Sensible of the truth of this observation, and earnestly desirous of arriving at some certainty on this subject, we have examined a vast number of all the different Species and Varieties of Polygonum which our neighbourhood affords, compared them with one another, sown the seeds, and cultivated many of them; and if we do not deceive ourselves, have reduced some of the more difficult ones to their true Species and Varieties.

As what we relate concerning these plants is no more than the result of the most accurate and repeated investigation, assisted by the microscope, we shall be the less concerned because we differ from Authors of the most respectable Authority.

The writer who gives an account of all the known plants in the universe, cannot be supposed to have the opportunity of being so minute in his enquiries as one who describes the plants of a particular spot, which as they grow are constantly the objects of his attention.

We have ventured to alter Linnaeus's Specific description of this plant, which stands thus.

*Polygonum floribus hexandris digynis, spicis ovato-oblongis, foliis lanceolatis, stipulis ciliatis.* to

*Polygonum floribus hexandris semidigynis, pedunculis lævibus, stipulis ciliatis, spicis ovato-oblongis erectis.*

We have not made this alteration from an idle desire of differing from so great a Man, whom we truly respect and revere, but solely to make the distinctions betwixt those plants more obvious, and thereby add our mite to the general stock of Botanic knowledge. In specific descriptions, the distinguishing marks should as much as possible be contrasted or opposed to each other, in these plants this does not seem to have been sufficiently attended to. What we have principally in view by altering the Specific description is to distinguish it from the *Polygonum Pensylvanicum* and its varieties, of which there are several, and to which the *Polygonum Persicaria* in its general habit is exceeding nearly allied.

In all the flowers of this Species which we have examined, the Style has been divided just half way down, hence we have called the flowers *Semidigyni*, had it been divided down to the base they would with propriety have been called *Digyni*. In most of the flowers the Style is divided into two parts, and the Germen is a little convex on each side, in some of the flowers the style is divided into three, hence those flowers might be called *Semitrigyni*, and when this is the case the Germen is always triangular. In the *Polygonum Pensylvanicum* the Style is divided nearly to the base, this difference then in the division of the Style, is of considerable consequence in distinguishing the two Species and their varieties from each other.

The footstalks which support the flowers in this Species, are quite smooth, in the *Polygonum Pensylvanicum*, they are beset with a great number of minute glands, which gives them a manifest roughness; and contributes to characterize that Species.

The Stipulæ are furnished with long Cilia or Hairs, particularly towards the top of the plant, in the *Polygonum Pensylvanicum* these are wanting. These two plants likewise differ much in the form of their seeds, of which we shall speak more fully in our account of the latter.

The flowers always grow in upright spikes of an oval shape more or less round; by these two characters this Species is at once distinguished from the *Polygonum Hydropiper*, the spikes of which are filiform and pendulous.

The leaves are most commonly spotted, but this is neither constant nor peculiar to this Species, and difference of size only forms the principle variety to which it is subject.

It grows exceedingly common in all our Ditches, and flowers in August and September; its blossoms are beautiful and last a considerable time, was it not so common, it would probably be thought worthy of a place in our Gardens.

No particular virtues or uses are attributed to it.









# POLYGONUM      PENSYLVANICUM.      PALE - FLOWERED PERSICARIA.

POLYGONUM *Linnaei Gen. Pl.* OCTANDRIA TRIGYNIA.

*Raii Syn. Gen. 5.* HERBÆ FLORE IMPERFECTO SEU STAMINEO (VEL APETALA POTIUS.)

POLYGONUM floribus hexandris, digynis; stipulis muticis; pedunculis scabris; feminibus utrinque depresso.

POLYGONUM floribus octandris digynis, pedunculis hispidis, foliis lanceolatis, stipulis muticis.

*Linnaei Syst. Vegetab. Sp. Plant. p. 519.*

PERSICARIA mitis major foliis pallidioribus. *D. Bobarti, Dead Arsmart the greater with pale leaves.*

*Raii Syn. ed. 3. p. 145. Hudson Fl. Angl. p. 148.*

RADIX fibrosa, annua.

CAULIS tripedalis circiter, teres, glaber, fistulosus, ramofus; rami patentes, geniculis maxime incrassatis.

FOLIA ovato-lanceolata, supra glabra, subtus glandulis punctata, sæpe pubescentia, ciliata, nunc maculata nunc immaculata.

PETIOLI subtus hirsuti, scabriusculi.

STIPULÆ basi nervosæ, muticæ.

PEDUNCULI pilis brevibus glanduliferis scabri. *fig. 1.*

FLORES herbacei, pedunculis brevibus infidentes, dense glomerati, spicæ ovatae, feminibus maturis subnutantes.

CALYX: PERIANTHIUM quinquepartitum, laciniis ovatis, obtusis, *fig. 2, 3.*

COROLLA nulla.

STAMINA: FILAMENTA sex, subulata, alba, Corollâ paulo breviora; ANTHERÆ biloculares; POLLEN globosum, *fig. 4.*

PISTILLUM: GERMEN subovatum; STYLUS fere ad basin divisus; STIGMATA duo subrotunda, *fig. 5, 6.*

SEMEN cordatum, acuminatum, compressum, medio depresso, nitidum, *fig. 9, 10,* magnit. nat. *fig. 7, 8,* lente auct. subinde obtuse triquetrum, *fig. 12.*

ROOT fibrous and annual.

STALK about three feet high, round, smooth, hollow, branched, the branches spreading, and the joints very much swelled.

LEAVES of an oval pointed shape, smooth on their upper surface, underneath dotted with small glands, and often downy, edged with little hairs, sometimes with and sometimes without spots.

FOOT-STALKS of the leaves hairy underneath, with a slight roughness to the touch.

STIPULÆ rib'd at bottom, and not terminated by any hairs.

FOOT-STALKS of the flowers rough with little glands. *fig. 1.*

FLOWERS of a greenish colour, sitting on short foot-stalks, and growing thickly together; spikes oval, and when the seeds are ripe drooping a little.

CALYX: a PERIANTHIUM divided into five segments, which are oval and obtuse, *fig. 2, 3.*

COROLLA wanting.

STAMINA: six FILAMENTS, tapering, white, a little shorter than the Corolla; ANTHERÆ bilocular; POLLEN globular, *fig. 4.*

PISTILLUM: GERMEN somewhat oval; STYLE divided nearly down to the base; STIGMATA two, roundish, *fig. 5, 6.*

SEED heart-shaped, pointed, flat, with a depression in the middle, shining, *fig. 9, 10,* of its natural size, *fig. 7, 8,* magnified, sometimes obtusely triangular, *fig. 12.*

The plant here figured, is the *Persicaria mitis major foliis pallidioribus, D. Bobarti*, and which is particularly described in the 3d. edition of RAY's *Synopsis*, p. 145: from the consonancy of this description, with that which LINNÆUS had given of the *Polygonum Pensylvanicum*, in the 3d. edition of his *Species Plantarum*, Mr. HUDSON set it down in his *Flora* as that species: and LINNÆUS, in the last edition of his *Systema Vegetab.* as a confirmation of our English *Polygonum's*, being the same with his *Pensylvanicum*, quotes BOBART's descriptive name.

By RAY, LINNÆUS, and HUDSON, then, it is made a distinct species; by HALLER it is considered as a variety of the *Polygonum Persicaria*; but as the Baron forms his judgment from dried specimens that were sent him, in which many of the distinguishing characters of this plant would be unavoidably lost, he seems the most likely to be mistaken: I shall therefore join in making it a distinct species; and I trust shall give such striking additional characters, as will settle this matter beyond dispute.

The true *Polygonum Pensylvanicum* (for there are several varieties of it) has the greatest affinity with the *Polygonum Persicaria*, but differs from it in the following particulars, *viz.* place of growth, size, stipulæ, leaves, foot-stalks of the leaves, foot-stalks of the flowers, style, and seeds.

While the *Polygonum Persicaria* usually delights to grow by the sides of moist ditches, the *Pensylvanicum* prefers a richer and more luxuriant soil; and so common is it with us about town, that there is scarce a dunghill on which it may not be found: indeed in its attachment to this particular soil, it resembles many of the *Chenopodiums* or *Oraches*. Was it never to occur in other situations, some might be ready to suspect that it was a variety of the *Persicaria* arising from richness of soil; but it is frequently found in other places: and I remember once to have seen the *Polygonum Persicaria*, *Hydropiper*, and *Pensylvanicum*, all growing by the side of a stream within six inches of each other.

In its most common state it is much larger than the *Polygonum Persicaria*, and its joints in particular are more swelled; its Stipulæ are much more strongly rib'd at bottom, and have no Ciliæ; its leaves are broader, the veins somewhat deeper, and more strongly marked; the hairs on the edges of the leaves more visible, but particularly so under the foot-stalk of the leaf, to which they give a manifest roughness: in the uppermost leaves the under side is generally dotted with very minute glands, while in the lowermost it is covered with a kind of down: this last character, though contrary to what LINNÆUS asserts, is never seen in the *Polygonum Persicaria*; but in this species it is always more or less predominant. The foot-stalks of the flowers are thickly beset with little yellowish glands, standing on short foot-stalks, which sometimes extend half way down the plant; this appearance never or exceeding rarely occurs in the *Polygonum Persicaria*: the flowers are of a pale or greenish hue, and form thicker and larger spikes than in the *Polygonum Persicaria*, and when ripe are so heavy as frequently to hang down a little: the Style is divided very nearly down to the Germen, while in the *Polygonum Persicaria* it is divided only half way; and this division of the Style, I look upon as one of the most constant and certain criteria of this species: lastly the form of the seeds contributes not a little to the farther ascertaining and fixing it; in the *Persicaria* the seeds are either triangular, or of a pointed oval shape, with a little convexity on each side; in this species it is in general flat, with a depression on each side; it is also larger and broader; now and then a seed occurs forming an unequal triangle, but these are very rare, while the triangular seed is most frequent in the *Polygonum Persicaria*.





*Polygonum Pensylvanicum*











*Polygonum Pensylvanicum* var. *caule maculato*.



POLYGONUM PENNSYLVANICUM. VAR. CAULE MACULATO.  
SPOTTED-STALK'D PERSICARIA.

PERSICARIA latifolia geniculata, caulibus maculatis. D. Rand. Raii Syn. p. 145.  
PERSICARIA maculosa procumbens foliis subtus incanis. Raii Syn. p. 146. eadem est planta solo  
autem minus læto proveniens.

Such then is the difference, which from repeated examinations, I have been able to discover betwixt the *Polygonum Persicaria* and the *Pensylvanicum* in its most common state; in this state however it does not always occur, but is subject to more Varieties than any of our other *Persicaria*'s: without any desire of multiplying them, I make the following, having found them all about London:

- 1 *Polygonum Pensylvanicum*. var. caule et floribus rubris.
- 2 ..... caule maculato.
- 3 ..... foliis subtus incanis.

The first of these varieties is very often found with the true species on dunghills, as also in corn-fields, and is like it in every respect excepting its colour, the stalks and flowers being red, but not so beautifully bright as those of the *Polygonum Persicaria*.

The second variety here figured, which indeed comes near to a distinct species, grows much in the same situations, and oftentimes with the *Polygonum Persicaria* in the ditches about *St. Georges-fields*, particularly in a large ditch on the right-hand side of the road between the end of *Blackman-Street* and *Newington*, where it is very common in the month of *September*. It not only differs from the other in having its stalk spotted with red, a character which it keeps very constantly, but its spikes are much slenderer, rather more so even than those of the *Persicaria*, of a red colour, but not quite so bright as those of that plant: the under side of the foot-stalk of the leaves is remarkably rough; the little glands on the foot-stalks of the flowers, and the parts of the fructification are similar to those of the true species, but the seeds are smaller: when this variety grows in the rich soil abovementioned, it is full as large as the *Pensylvanicum* itself; but when it grows in a different soil and situation, as on the watery parts of *Blackheath* and *Peckham-Rye*, it becomes much smaller, generally has its leaves white underneath, and will certainly be taken for the *Polygonum Persicaria* if not attentively examined: its spotted stalk and the roughness of the foot-stalks of the leaves will however readily discover it.

The third variety, with leaves hoary on the under side, is found here and there in corn-fields and other places, where the soil is not very rich, and is obviously enough distinguished.

Besides these striking varieties, it is subject, like all other plants, to vary in size according to the richness or poverty of the ground on which it grows, and like the *Polygonum Persicaria*, its leaves are sometimes spotted and sometimes not.

This descriptive account will perhaps appear tedious and uninteresting to some; if however by these practical observations, the obscurity which has hitherto dwelt on this difficult Genus, shall in some degree be removed, and the road of investigation made easier to the young Botanist, I shall think my time usefully employed; I would not however wish him to take upon trust what is here advanced, but to examine each plant and its several parts for himself; thus he will become improved, and be able perhaps to throw a still greater light on the subject.

The Sparrow and other small Birds are very fond of the seeds of this species and its varieties: but the Farmer should carefully weed them from his dunghills.









# POLYGONUM HYDROPIPER. BITING PERSICARIA OR WATER PEPPER.

POLYGONUM *Linnaei Gen. Pl.* OCTANDRIA TRIGYNIA.

*Cal. o. Cor. 5-partita, calycina. Sem. 1, angulatum.*

*Rai Syn. Gen. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALO POTIUS.*

POLYGONUM *Hydropiper* floribus hexandris semidigynis; foliis lanceolatis, undulatis, immaculatis; spicis filiformibus nutantibus.

POLYGONUM *Hydropiper* floribus hexandris semidigynis, foliis lanceolatis, stipulis submuticis. *Linnaei Syst. Vegetab. p. 312.*

POLYGONUM foliis ovato lanceolatis, spicis florigeris, vaginis calvis. *Haller. Hist. p. 256. n. 1554.*

POLYGONUM *Hydropiper. Scopoli Fl. Carniol. n. 467.*

PERSICARIA urens seu Hydropiper. *Baubin. pin. 101.*

PERSICARIA vulgaris acris seu minor. *Parkinson. 856.*

HYDROPIPER. *Gerard. emac. 445. Raii Syn. p. 144. Water-pepper, Lakeweed or Arsmart, Hudson Fl. Angl. p. 148.*

RADIX annua, fibrosa.

CAULIS erectus, ramosus, basi nonnunquam repens, pedalis ad tripedalem, geniculis incrassatis, demum ruberrimus.

FOLIA lanceolata, undulata, e viridi flavescentia, glabra.

STIPULÆ ciliatæ.

FLORES spicati, spicæ tenues, demum nutantes.

CALYX: PERIANTHIUM quadripartitum, glandulis minimis adpersum, laciniis obtusis, concavis, fig. 1, 2, 3.

COROLLA nulla.

STAMINA: FILAMENTA sex alba; ANTHERÆ albæ biloculares, fig. 3.

PISTILLUM: GERMEN ovatum; STYLUS bifidus, ad medium usque divisus; STIGMATA duo, rotunda, fig. 4, 5.

SEMEN ovato-acuminatum, castaneum, fig. 6.

ROOT annual and fibrous.

STALK upright, branched, sometimes creeping at bottom, from one to three feet high, the joints swelled, finally becoming very red.

LEAVES lanceolate, waved, of a yellowish green colour and smooth.

STIPULÆ ciliated.

FLOWERS growing in spikes, which are slender and finally drooping.

CALYX: a PERIANTHIUM divided into four segments, sprinkled with very minute glands, the segments blunt and hollow, fig. 1, 2, 3.

COROLLA wanting

STAMINA six white FILAMENTS; ANTHERÆ white and bilocular, fig. 3.

PISTILLUM: GERMEN oval; STYLE bifid, divided down to the middle; two round STIGMATA, fig. 4, 5.

SEEDS of an oval pointed shape, and chefnut-colour, fig. 6.

It is one of the maxims laid down by the Author of that system of Botany which at present is so deservedly held in esteem, and which I trust for the sake of this delightful science will for ever withstand the attempts of all those who frame systems merely to raise themselves into consequence, that in all specific descriptions taste is to be excluded: some may perhaps be ready to treat this as too dogmatical, but when they come to find that both the *Hydropiper* and *Sedum acre*, plants which in general are very hot and biting, sometimes are found insipid, they will readily adopt it as founded in strict propriety.

The present species of Polygonum very properly receives its name of *Hydropiper* from its hot and biting taste, which appears to arise from its essential oil dispersed in little cells or glands all over the plant, but more particularly observable on the Calyx with a small magnifier, and which, if tasted, will be found to be more biting than any other part of the plant: this quality which is peculiar to the *Hydropiper*, generally leaves a strong Idea of the plant on the mind of the Tyro: but it is has other more invariable characters whereby it may be distinguished. Notwithstanding its obvious difference from the other plants of this genus, apparent even to such as know very little of Botany, both SCOPOLI and HALLER seem to entertain doubts whether it be really distinct from the *P. Persicaria* and *P. minus*.

The three plants as they usually grow, and I have seen them all three grow together, are certainly distinct enough: but there are some intermediate varieties which bring them very near together, and perhaps justify such suspicions: a variety of the *Hydropiper*, scarce differing in any other respect but its insipidity, I have now and then met with in the same situation as we usually find the true species: from the *P. Persicaria* it differs principally in its leaves, spikes, form and size of its seeds; and first its leaves are of a yellower hue, more undulated, and never marked with any spots; its spikes are slender, and when the seeds are ripe they bend and hang down; the seeds are much larger, more acuminate, and of a chefnut colour; its stipulæ are very evidently ciliated; though HALLER makes their want of ciliæ one of its striking characters; and LINNÆUS also calls them *submuticæ*, which certainly tends to mislead.

It is the only *Persicaria* that has any pretensions to be an active medicine: given in infusion or decoction it proves diuretic, hence it is made use of in the Dropsy and Jaundice; and the distilled water of it is recommended by BOYLE as efficacious in the Stone and Gravel: LINNÆUS informs us that the plant will dye Woolen cloth of a yellow colour.

Although the herb is so acrid, the seeds are insipid and nutritive.

It is found in great abundance in all those places which lie under water during the Winter, flowers in September, generally a month later than the *P. Persicaria*: in exposed places it becomes very red in going off.





*Polygonum Hydropiper.*











*Polygonum aviculare.*



# POLYGONUM AVICULARE. BIRDS POLYGONUM OR KNOT-GRASS.

POLYGONUM *Linnæi Gen Pl.* OCTANDRIA TRIGYNIA.

*Cal. o. Cor. 5-partita, Calycina. Sem. i. angulatum.*

*Raii Syn. Gen. 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO. (VEL APETALA POTIUS.)*

POLYGONUM *aviculare* floribus octandris trigynis axillaribus, foliis lanceolatis, caule procumbente herbaceo. *Linn. Syst. Vegetab. p. 312. Sp. Pl. 519. Fl. Suecic. n. 339.*

POLYGONUM procumbens, foliis linearibus, acutis, floribus solitariis. *Haller hist. n. 1560.*

POLYGONUM *aviculare. Scopoli Fl. Carniol. n. 471.*

POLYGONUM mas vulgare. *Gerard emac. 451.*

POLYGONUM mas vulgare majus. *Parkinson 443.*

POLYGONUM seu Centinodia. *I. Baubin 3. 374. Raii Syn. p. 146. Hudson Fl. Angl. p. 149.*

RADIX annua, simplex, lignosa, multis fibris donata, terram firmiter apprehendens ut extirpatu difficilis fit, sapore adstringente.

CAULES plures, plerumque procumbentes, interdum vero suberecti, dodrantes, ramosi, tenues, striati, læves, teretes, geniculati, ad geniculos paululum incrassati.

FOLIA quam maxime variantia, ovata, lanceolata aut etiam linearia, alterna, lævia, e vaginis stipularum prodeuntia.

STIPULÆ vaginantes, membranaceæ, albidæ, nitidæ, apice fibrosæ.

FLORES axillares, e vaginis stipularum cum foliis prodeuntia.

CALYX : PERIANTHIUM quinquepartitum, laciniis ovatis concavis, patentibus, dimidio inferiore viridi, superiore albo, sæpe colorato, *fig. 1, 2.*

COROLLA nulla.

STAMINA : FILAMENTA octo corolla breviora ; ANTHERÆ flavæ, *fig. 2, auct.*

PISTILLUM : GERMEN triquetrum ; STYLUS longitudine staminum, trifidus ; STIGMATA tria, rotunda, *fig. 3, auct.*

SEMEN triquetrum, nigricans, intra calycem, *fig. 4.*

ROOT annual, simple, woody, furnished with many fibres, taking strong hold of the earth, so as to be with difficulty pulled up, and of an astringent taste.

STALKS several, generally procumbent, sometimes nearly upright, about nine inches in length, branched, slender, striated, smooth, round, jointed, the joints a little swelled.

LEAVES varying exceedingly, oval, lanceolate, or sometimes even linear, alternate, smooth, proceeding from the sheaths of the Stipulæ.

STIPULÆ forming a sheath round the joints, membranous, white, shining, at top fibrous.

FLOWERS axillary, proceeding with the leaves from the sheaths of the Stipulæ.

CALYX : a PERIANTHIUM divided into five segments, the laciniæ oval, concave and spreading, the lower half green, the upper half white and often coloured, *fig. 1, 2.*

COROLLA wanting.

STAMINA : eight FILAMENTS shorter than the Corolla, ANTHERÆ yellow, *fig. 2, magnified.*

PISTILLUM : GERMEN triangular ; STYLE the length of the Stamina, trifid ; STIGMATA three, round, *fig. 3, magnified.*

SEED triangular, of a blackish colour, contained within the Calyx, *fig. 4.*

Those plants which have been observed to be eaten by cattle, have often obtained the name of *Grass*, although they have not possessed the least similitude to those which are real Grasses, and the present plant is one of these. Cattle in general are fond of it, and hogs in particular eat it with great avidity. The seeds afford sustenance to many of the small birds, whence it has acquired the name of *aviculare*. The Caterpillar of the \**Phalena rumicis* (with us the *Knot-grass Moth*,) I have frequently found feeding on its leaves, although it is by no means confined to this plant : in *Sweden*, LINNÆUS informs us it feeds on the *Dock* (*Rumex*,) and *Sow-thistle*.

This species of *Polygonum* may be considered as one of our most common plants ; it delights to grow in a sandy or gravelly soil, on banks, and by the sides of roads and paths, being of quick growth, and spreading a great deal of ground ; it often covers whole fields, that by turning in of cattle, have had their natural coat of grass destroyed.

Where a plant of this species happens to grow singly in a rich soil, it will often cover the space of a yard or more in diameter, and the leaves become broad, and large ; but when it grows very thick together, by the sides of paths, it is in every respect smaller, and the stalks are more upright. It is subject, like most other plants, to several varieties, and of these are the *Polygonum brevi angustoque folio*, and the *Polygonum oblongo angustoque folio* of *C. Bauhine*.

It has been considered by antient writers, as possessing some medical virtue, particularly as an Astringent, and is by them recommended in Diarrhæas, Dysenteries, Bleeding at the nose, and other Hemorrhages ; but in the present practice, its use seems justly superseded by more efficacious medicines.

\* *Vid. Linn. Faun. Suecic. p. 318, n. 1200. Rosel. cl. 2. Pap. No. 1. 27. Albin Insect. pl. 22.*











*Polygonum minus.*



# POLYGONUM MINUS. SMALL, CREEPING, NARROW-LEAVED

## PERSICARIA.

POLYGONUM *Linnaei Gen. Pl.* OCTANDRIA TRIGYNIA.

*Cal.* o. *Cor.* 5-partita calycina. *Sem.* 1, angulatum.

*Raii Syn. Gen.* 5. HERBÆ FLORE IMPERFECTO SEU STAMINEO VEL APETALA POTIUS.

POLYGONUM *minus* floribus hexandris, submonogynis, foliis lineari-lanceolatis, caule basi repente.

POLYGONUM *minus* hexandris digynis foliis lanceolatis, stipulis ciliatis, caule divaricato patulo.

*Hudson Fl. Angl. p.* 148.

POLYGONUM foliis ovato-lanceolatis, glabris, spicis strigosis, vaginis ciliatis. *Haller. hist. p.* 257.  
n. 1555.

PERSICARIA minor. *Baubin Pin.* 1014? angustifolia. *Baubin Pin.* 101. 3?

PERSICARIA pusilla repens *Ger. emac.* 446. *Parkinson.* 857. *Raii Syn.* 145. 2. Small Creeping Arsmart.

PERSICARIA angustifolia ex fingulis geniculis florens. *Mer. Pin.* 90? *Raii Syn.* 145. 3. Narrow-leaved Lakeweed.

RADIX annua, fibrosa.

CAULES plures, dodrantales, aut pedales, *basi repentes*, demum suberecti, geniculati, (geniculis paululum incrassatis,) laeves, rubicundi.

FOLIA lineari-lanceolata, pene avenia, superne glabra.

STIPULÆ vaginantes, ciliatæ.

SPICÆ tenues, parum nutantes, e singulis geniculis prodeuntes.

CALYX: PERIANTHIUM quinquepartitum, persistens, coloratum, laciniis obtusis concavis, *fig.* 1.

COROLLA nulla.

STAMINA: FILAMENTA sex; ANTHERÆ biloculares, albæ, intra Corollam.

PISTILLUM: GERMEN ovatum aut triangulare; STYLUS filiformis, apice bifidus aut trifidus; STIGMATA duo aut tria rotunda, reflexa, *fig.* 2, 3.

SEMEN aut ovato-acutum aut triangulare, castaneum, magnitudinis fere et formæ feminis Polygoni Persicariæ, *fig.* 4, 5.

N. B. Omnes partes fructificationis lente augentur.

ROOT annual, and fibrous.

STALKS several, about nine inches or a foot high, *creeping at bottom*, then becoming nearly upright, jointed, (the joints somewhat thickened,) smooth, of a reddish colour.

LEAVES *betwixt linear and lanceolate*, scarcely any appearance of veins, on thier upper surface smooth.

STIPULÆ forming sheaths round the joints, and ciliated.

SPIKES slender and a little drooping, proceeding from each joint of the stalk.

CALYX: a PERIANTHIUM divided into five segments, which are obtuse and hollow, *fig.* 1.

COROLLA wanting.

STAMINA six FILAMENTS; ANTHERÆ bilocular, and white, within the Corolla.

PISTILLUM: GERMEN oval or triangular; STYLE filiform, at top bifid or trifid; STIGMATA two or three, round and turned back, *fig.* 2, 3.

SEEDS oval or triangular, of a chestnut colour, nearly of the same size and shape as the Polygonum Persicaria, *fig.* 4, 5.

N. B. All the parts of the fructification are magnified.

If the opportunity of seeing this plant growing wild had ever occurred to the celebrated Swedish Botanist, he would doubtless have considered it as a distinct species; at present he has placed it in the last edition of his works, the *Systema Vegetabilium*, as a variety of the *Polygonum Persicaria*, probably misled by dried specimens of the plant: those who trust to such are exceeding liable to deceive both themselves and others, particularly in plants whose parts of fructification (from which it is sometimes necessary to draw specific differences) are very minute—those in the living plants are with difficulty enough distinguished, and in dried specimens not to be investigated.

Whoever has observed the appearance which the *Polygonum minus* and *Persicaria* usually put on, must have been struck with the great dissimilarity of the two in their general habits; and if they have taken the pains to examine the parts of fructification, they will, I am persuaded, be convinced that both Mr. RAY and HUDSON are justifiable in making them distinct species.

It differs from the *Polygonum Persicaria* in its size, growth of its stalk, shape of its leaves, form of its spikes, and division of its Pistillum. In height it seldom exceeds a foot, whereas the *Persicaria* often occurs a yard high; the stalk of this species creeps at bottom, in the *Persicaria* it never does: it is true in the *Persicaria*, and most of the *Polygonums*, a number of little roots push themselves out at the joints, which are next the ground; but in this species the stalk at bottom is absolutely procumbent; whilst in the *Persicaria* it is always upright; the leaves are much narrower, approaching rather to linear than lanceolate, and on their upper surface have much less appearance of veins, than in the *Persicaria*; the spikes, instead of being oval or nearly round, and upright, as in the *Persicaria*, are slender and a little drooping: the Pistillum, which is a part of very great consequence in determining many of the species and varieties of this genus, is slightly divided at top only; while that of the *Persicaria* is divided half way down; hence as I have called that species *semidigynous*, I have called this *submonogynous*.

Hitherto I have met with this plant growing wild no where but in *Totbill-fields, Westminster*, where it makes ample amends for its scarcity elsewhere, being found in the greatest abundance in the watry parts of those fields, along with the *Sisymbrium sylvestre* in the month of September, when it is in full bloom.

At present it does not appear that it has any thing more than its scarcity to recommend it to our notice.









# Butomus umbellatus. Flowering Rush, or Water Gladiole.

BUTOMUS *Linnei. Gen. Pl. ENNEANDRIA HEXAGYNIA.*

*Raii Syn. Gen. 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.*

BUTOMUS *umbellatus. Linn. Spec. Plant. p. 532.*

JUNCUS *floridus major. Baubin. Pin. p. 12.*

GLADIOLUS *palustris Cordi. Gerard. emac. p. 29.*

*Raii Syn. ed. 3. p. 273. Hudson. Fl. Angl. p. 152. Scopoli Flor. Carn. ed. 2. p. 283.*

*Haller. Hist. Pl. Helv. vol. 2. p. 81.*

RADIX	perennis, alba, tuberculosa, transversa, edulis? ex inferiore parte radículas prælongas dimit- tens.	ROOT	perennial, white, knobby, transverse, eatable, from its under side sending down a great num- ber of very long fibres.
SCAPUS	pedalis ad orgyalem, teres, glaber.	STALK	round, smooth, from one to five or six feet high, according to its place of growth.
FOLIA	triquetra, spongiosa, fig. 1, scapo breviora, ad basin spathacea, apicibus compressis, tortuosis.	LEAVES	triangular, spongy, fig. 1, shorter than the stalk, at bottom sheathy, at top flat, and twisted.
FLORES	in UMBELLA, ad triginta; pedunculi digi- tales, e vaginis membranaceis prodeuntes.	FLOWERS	numerous, to thirty, each on a single peduncle of about a finger's length, forming an UMBELL, surrounded at bottom by wither- ed membranous sheaths.
CALYX	: INVOLUCRUM triphyllum, foliolis lanceolatis, marcescentibus.	CALYX	: an INVOLUCRUM of three leaves, spear sha- ped, and withered.
COROLLA	: PETALA sex, inæqualia, subrotunda, con- cava, rosea, fig. 2, alternis minoribus, acu- tioribus, fig. 3.	COROLLA	: composed of six PETALS, which are roundish, concave, and most commonly of a bright red, fig. 2: the three exterior smaller, and more pointed, fig. 3.
STAMINA	: FILAMENTA novem, subulata, fig. 4, 5. ANTHERÆ infidentes, dum pollinem involvunt oblongæ, rubræ, quadrisulcatæ, mucrone brevi terminatæ, fig. 6, 7, emissio polline subcordatæ, compressæ, bilamellosæ, fig. 4: POLLEN fla- vissimum.	STAMINA	: nine FILAMENTS, tapering, fig. 4, 5. ANTHERÆ fitting on the filaments, before the shedding of the Pollen, oblong, reddish, ha- ving four grooves, and terminated by a short point, fig. 6, 7, appearing afterwards some- what heart-shaped, flat, and as if composed of two lamellæ, fig. 4: the POLLEN is of a bright yellow colour.
PISTILLUM	: GERMEN subtriangulare, latere exte- riore latiore, convexo, fig. 9, 10: STYLI sex subulati, fig. 8: STIGMA canaliculatum.	PISTILLUM	: the GERMEN nearly triangular, the outer side broad and roundish, fig. 9, 10: six STYLES, tapering: the STIGMA has a small channel in it, which afterwards spreads into two lips, fig. 11, 12.
PERICARPIUM	: CAPSULÆ sex, oblongæ, attenuatæ, erectæ, univalves, apice bilabiata, introrsum dehiscentes, fig. 11, 12.	SEED-VESSEL	: six CAPSULES, oblong, tapering, upright, of one valve, opening inwards, fig. 11, 12.
SEMINA	plurima, minuta, oblonga, fusca, fig. 13.	SEEDS	numerous, small, oblong, brown, fig. 13.

WE find this stately plant, in and by the sides of our watery ditches, flowering from July to September. A few years since, it was found growing in *St. George's Fields*; but the improvements making in that, and other parts adjacent to London, now oblige us to go farther in search of this, and many other curious plants. About the *Island of St. Helena*, near *Deptford*, and in the Marshes by *Blackwall*, it is found in great abundance, although very scarce in many other parts of *Great Britain*. Fish ponds, or other pieces of water, would derive great beauty from the introduction of this elegant native of our Isle; the handsome appearance of which, did not escape our countryman, old GERARD, who describes it thus: "The Water Gladiole, or Grassy Rush, of all others, is the fairest and most pleasant to behold, and serveth very well for the decking and trimming up of houses, because of the beautie and braverie thereof."—That accurate observer RAY, describes its nine *Stamina*, although in his time, they were not viewed in that consequential light which they are in our present Systems of Botany. It is the only plant of the class *Enneandria*, which grows wild in this kingdom. If vegetables were classed according to their natural affinities, this would rank among the Lilies. Cattle do not eat it. It is so hardy as to bear the cold of *Lapland*.













# SAXIFRAGA GRANULATA. WHITE SAXIFRAGE.

SAXIFRAGA *Linnaei Gen. Pl.* DECANDRIA DIGYNIA.

*Calyx* quinquepartitus. *Corolla* pentapetala. *Capsula* birostris, unilocularis, polysperma.

*Raii Syn.* HERBÆ PENTAPETALÆ VASCULIFERÆ.

SAXIFRAGA *granulata* foliis caulinis reniformibus lobatis, caule ramoso, radice granulata. *Lin. Syst.*

*Vegetab. p. 344. Fl. Suecic. n. 372.*

SAXIFRAGA foliis radicalibus reniformibus, obtuse dentatis, caulinis palmatis. *Haller. hist. helv. n. 976.*

SAXIFRAGA rotundifolia alba. *Baubin Pin. 309.*

SAXIFRAGA alba, *Gerard emac. 841.*

SAXIFRAGA alba vulgaris, *Parkinson 424. Raii Syn. 354. Hudson Fl. Angl. p. 159. Oeder. Flor. Dan. 514.*

**RADIX.** Fibris hujus radice glomeratim adnascuntur plurimi bulbilli, extus rubescentes aut flavescercent, intus albidi, saporis primum adstringentis, postea amari et ingrati.

**CAULIS** plerumque simplex, pedalis, subramosus, teres, hirsutus, presertim ad basin, parum foliosus.

**FOLIA** *radicalia* petiolis longis, hirsutis, basi latis insidentia, reniformia, hirsutula, lobata, lobis obtusis; *caulina* sicut ascendunt petiolis brevioribus gaudent donec tandem sessilia fiunt, lobi foliorum acutiora evadunt, apicibus rufescentibus.

**CALYX:** PERIANTHIUM quinquepartitum, hirsutulum, subviscidum, laciniis ovato-acutis apice rufis, *fig. 1.*

**COROLLA:** PETALA quinque alba, patentia, apice rotundata, basi angustiora et venis flavescercentibus notata, *fig. 2.*

**STAMINA:** FILAMENTA decem subulata; ANTHERÆ ovatae, compressae, insidentes, flavae, biloculares, quorum quinque Pollen primum emittunt, hinc longiores, *fig. 3, 4.*

**PISTILLUM:** GERMEN subrotundum, inferum, glandula saturate viridi cinctum, *fig. 7;* STYLI duo Staminibus breviores, incurvati, *fig. 5;* STIGMA concavum, *fig. 5,* demum expandens, *fig. 6.*

**PERICARPIUM:** CAPSULA subovata, birostris, bilocularis, pallide fusca, *fig. 8.*

**SEMINA** numerosa, minutissima, nigra. *fig. 9.*

**ROOT.** To the fibres of the root of this plant, adhere in clusters a number of small bulbs, externally red or yellowish, internally white, of a taste at first astringent, afterwards bitter and disagreeable.

**STALK** generally simple, about a foot high, a little branched, round, hirsute particularly at bottom, furnished with but few leaves.

**LEAVES** *which grows next the root* placed on long hairy foot-stalks with a broad base, kidney-shaped, slightly hairy, divided into obtuse lobes, those of the *stalk*, as they ascend, are furnished with shorter foot-stalks, till they gradually become sessile, the lobes more acute, and the tips of a reddish colour.

**CALYX:** a PERIANTHIUM divided into five segments, hirsute and somewhat viscid, the lacinae of an oval pointed shape, and red at the tips, *fig. 1.*

**COROLLA:** five PETALS, white, spreading, round at top, at bottom narrower, and striped with yellowish veins, *fig. 2.*

**STAMINA:** ten FILAMENTS tapering; ANTHERÆ oval, flat, sitting on the Filaments, yellow, bilocular, five of them shed the Pollen first, hence they become longer than the others, *fig. 3, 4.*

**PISTILLUM:** GERMEN roundish, placed below the Calyx, surrounded by a gland of a deep green colour, *fig. 7;* STYLES, two, shorter than the Stamina, bending inward, *fig. 5;* STIGMA hollow, *fig. 5,* finally expanding, *fig. 6.*

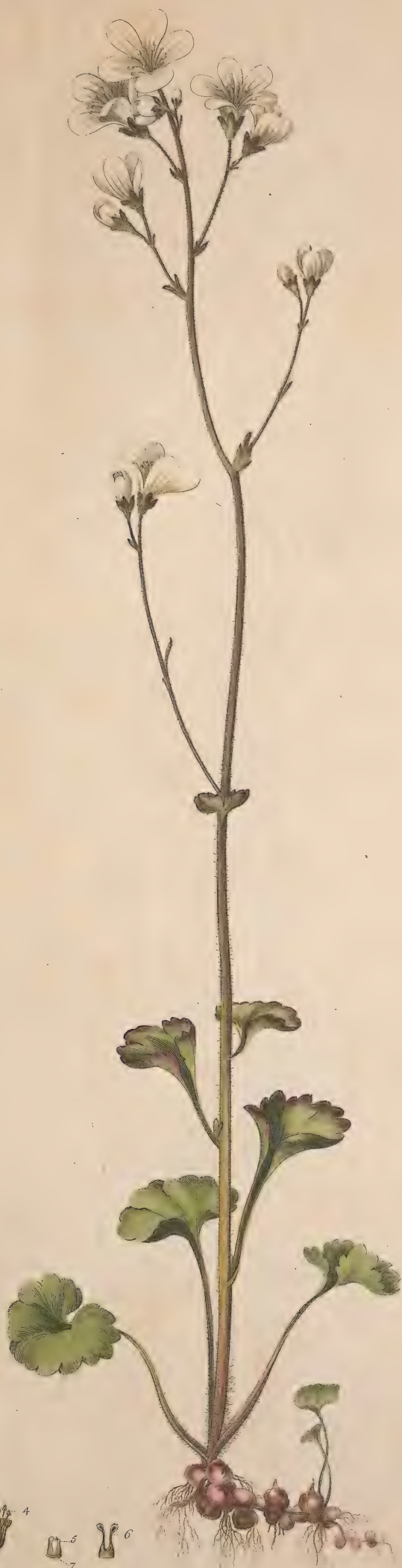
**SEED-VESSEL:** a CAPSULE of a shape somewhat oval, and pale brown colour, having two beaks or horns, and two cavities, *fig. 8.*

**SEEDS** numerous, very minute, and black. *fig. 9.*

THE Root of this species of *Saxifrage*, by means of which it is chiefly propagated, affords the young Botanist a very good example of the *Radix granulata*, being composed of a number of little grains or bulbs, connected together in clusters by the fibres; some of these bulbs are solid and entire, not unaptly resembling in shape the bulbs of Onions; others spread open at top, and seem to be composed of a number of squamulae or lesser bulbs, these are often of a bright red colour: the upper part of the stalk, the foot-stalks of the flowers, and calyx, are covered with a kind of hairs, which terminate in a viscid globule, and which seem to accompany most of the plants of this Genus. The two Styles, which at first are short, with a hollow Stigma, *fig. 5,* quickly grow much longer; the Stigmata spread open, so that they resemble in some degree a pair of tea-tongs, *fig. 6.*

This plant does not occur so frequently with us as many others: according to Mr. HUDSON, it is common about *Wandsworth*; I have frequently gathered it in the fields about *Peckham*, and lately have found it in great abundance much nearer town, viz. in the fields called *Lock-fields*, on the right hand side of *Kent-street Road*, at the back of, and contiguous to Mr. DRIVER's Nursery Gardens: it delights to grow in dry pastures which have a gravelly bottom; flowers in May, and produces its seeds in the month following. When double, it serves, with many other British plants, to ornament the gardens of the curious.

Like many other plants, this seems to owe what little importance it has in medicine to the doctrine of signatures, which has most unphilosophically introduced a number of plants into our *Materia Medica*. As the root bore so great a resemblance to little stones, it was concluded it must be efficacious in the stone and gravel, for which diseases it has been recommended, but there are no accounts of its success to be depended on. If it does possess any medical virtue, it should appear from the taste of the root to be that of an astringent.



*Saxifraga Granulata.*

*Willd. Pinx. et sculp.*









# SEDUM ALBUM. WHITE-FLOWERED STONECROP.

SEDUM *Linnaei* Gen. Pl. DECANDRIA PENTAGYNIA.

*Cal.* 5 fidus. *Cor.* 5-petala. *Squamæ* nectariferæ 5, ad basin germinis. *Caps.* 5.

*Raii Syn. Gen.* 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

SEDUM *album* foliis oblongis obtusis teretiusculis sessilibus patentibus, cyma ramosa. *Linn. Syst. Vegetab.* p. 359. *Sp. Pl.* p. 619. *Fl. Suecic.* 153.

SEDUM caule glabro, foliis teretibus; umbellis ramosis; floribus petiolatis. *Haller hist. helv. n.* 959.

SEDUM *album.* *Scopoli Fl. Carn.* p. 324.

SEDUM minus teretifolium album. *Baubin.* p. 283.

SEDUM minus officinarum. *Gerard emac.* 512.

VERMICULARIS five crassula minor vulgaris. *Parkinson* 734. *Raii Syn.* 271. *Hudson Fl. Angl.* p.

171. *Oeder. Fl. Dan. Icon.* 66.

RADIX perennis, fibrosa.

CAULES flexuose super muros repent, dein eriguntur, triunciales circiter, foliosi, rubri.

FOLIA sessilia, oblonga et fere cylindracea, obtusa, non admodum conferta, patentia, carnosâ, glabra, sæpius rubicunda.

INFLORESCENTIA: Flores petiolati, in CYMAM ramosam confertam dispositi.

CALYX: PERIANTHIUM pentaphyllum, foliolis brevibus, obtusis, fig. 1.

COROLLA: PETALA quinque alba, acuminata, lineâ longitudinali rubra sæpius notata, fig. 2.

NECTARIUM glandula minima squamiformis ad basin singuli Germinis, fig. 6.

STAMINA: FILAMENTA decem alba, fig. 2, 3; ANTHERÆ rubræ.

PISTILLUM: GERMINA quinque, in STYLOS totidem acuminatos definitia; STIGMATA simplicia, fig. 4, 5.

PERICARPIUM: CAPSULÆ quinque minimæ acuminatæ introrsum dehiscentes, fig. 7.

SEMINA parva, oblonga, fig. 8.

ROOT perennial and fibrous.

STALKS creep on the walls in a crooked form, then grow upright, about three inches high, leafy, and red.

LEAVES sessile, oblong and almost cylindrical, obtuse, but thinly placed on the stalk, spreading, fleshy, smooth, and generally of a reddish colour.

INFLORESCENCE: Flowers standing on foot-stalks, and disposed in a thick branched CYMA.

CALYX: a PERIANTHIUM of five leaves, which are short and obtuse, fig. 1.

COROLLA: five white PETALS, acuminated and generally marked with a longitudinal red streak, fig. 2.

NECTARY a very minute squamiform gland at the base of each of the Germina, fig. 6.

STAMINA: ten white FILAMENTS, fig. 2, 3; ANTHERÆ deep red.

PISTILLUM: five GERMINA, terminating in so many acuminated STYLES; the STIGMATA simple, fig. 4, 5.

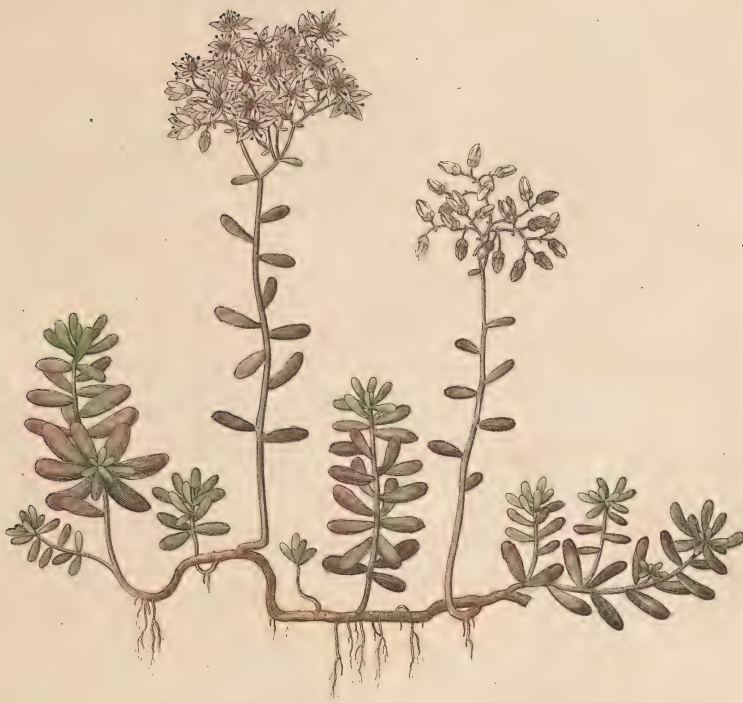
SEED-VESEL: five small acuminated CAPSULES, opening inwardly, fig. 7.

SEEDS small and oblong, fig. 8.

The *Sedum album* may be considered with us as rather a scarce plant; it is found here and there on the Walls about Town, particularly on the Chapel-wall in *Kentish-Town*, where it has grown for many years; also upon a Wall on the left-hand side leading from *Bromley* to *Bromley-Hall*, in *Middlesex*. It has been thought to possess sufficient beauty to recommend it as a garden plant, and is accordingly, with very little trouble, cultivated in many of the gardens of the curious, nothing more being necessary than placing it in a pot filled with gravel or mould: in such a situation it will grow, flourish, and propagate itself very fast.

It has been called *album*, from the colour of its flowers, which generally however have a tinge of red in them. It flowers in July. The round and oblong shape of its leaves readily distinguishes it from our other *Stonecrops*.

HALLER informs us that it possesses all the virtues of the large *Houfseleek*, and that he has used the juice of it in uterine hæmorrhages, but does not inform us with what success. By way of cataplasm it is applied to the piles when in a painful state, and is said to have sometimes been made the same use of in cancers with success. By some it is eaten as a pickle.



*Sedum Album.*









# SEDUM ACRE. COMMON YELLOW STONECROP, OR WALL-PEPPER.

SEDUM. *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

*Raii Synopsis Gen.* 17. HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

SEDUM *acre* foliis subovatis, adnato-fessilibus, gibbis, erectiusculis, alternis; cyma trifida. *Lin. Syst. Vegetab.* p. 359. *Fl. Suecic.* p. 153.

SEDUM foliis conicis confertis, caulibus ramosis, fummis trifidis. *Haller. hist. v. 1. n. 966.*

SEMPERVIVUM minus vermiculatum acre. *Baubin. pin.* 283.

VERMICULARIS feu Illecebra minor acris. *Ger. emac.* 517.

ILLECEBRA minor feu Sedum tertium Dioscoridis. *Parkinson 735. Raii Synop.* 270. *Hudson. Fl. Angl.* p. 171.

RADIX perennis, fibrosa.

CAULES numerosi, cæspitosi, ramosissimi, palmares, ad basin repentes, dein erecti, teretes, foliosissimi.

FOLIA alterna, conferta, imbricata, suberecta, adnato-fessilia, ovata, obtusa, brevia, carnosa, margine paululum compressa, glabra, *sapore acri.* fig. 1.

FLORES fessiles, lutei, in Cymas subtrifidas dispositi.

CALYX: PERIANTHIUM quinquepartitum, persistens, laciniis crassis obtusiusculis, fig. 2.

COROLLA: PETALA quinque lanceolato-acuminata, plana, patentia, Calyce duplo longiora, fig. 3.

NECTARIUM: Squamula minima, alba, ad basin, singuli germinis extrorsum posita, fig. 7.

STAMINA: FILAMENTA decem subulata, longitudine Corollæ. ANTHERÆ flavæ, fig. 4.

PISTILLUM: GERMINA quinque oblonga, flava, in STYLOS acuminatos desinentia. STIGMATA simplicia, fig. 6.

PERICARPIUM: CAPSULÆ quinque patentæ, acuminatæ, compressæ, longitudinaliter futura introrsum dehiscentes, fig. 8.

SEMINA minima, ovata, rufa, fig. 9.

ROOT perennial, and fibrous.

STALKS numerous, growing in tufts, very much branched, three inches high, creeping at their base, but afterwards growing upright, round, and very leafy.

LEAVES alternate, growing very thick together, and laying one over another, nearly upright, growing to the stalk, oval, blunt, short, fleshy, flattened a little at the edges, smooth, and of a very biting taste, fig. 1.

FLOWERS sessile, yellow, growing in Cymæ somewhat trifid.

CALYX: a PERIANTHIUM divided into five segments, and continuing, the segments thick and bluntish, fig. 2.

COROLLA: composed of five long-pointed PETALS which are flat, spreading, and twice the length of the Calyx, fig. 3.

NECTARY: a very minute scale or gland placed externally at the bottom of each Germen, fig. 7.

STAMINA: ten FILAMENTS, tapering, the length of the Corolla, the ANTHERÆ yellow, fig. 4.

PISTILLUM: five GERMINA, oblong, yellow, terminating in five long-pointed STYLES. The STIGMATA simple, fig. 6.

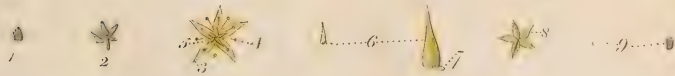
SEED-VESSEL: five CAPSULES, spreading, long-pointed, flat, opening internally by a longitudinal future, fig. 8.

SEEDS very minute, oval, and reddish brown, fig. 9.

According to the account which some medical Writers give of this Plant it appears to possess considerable virtues, while others, from the durability of its acrimony, and the violence of its operation, have thought it scarce safe to be administered. Chewed in the mouth it has a very hot and biting taste, whence its name of *Wall-Pepper*. Applied to the skin it excoriates and exulcerates it, taken internally it proves emetic and diuretic.

The Diseases in which it has been chiefly recommended are the Scurvy and Dropsy, in both of which, according to Linnæus, it is an excellent remedy; and some instances are brought of the efficacy of its juice in Cancers, but these perhaps, stand in need of farther confirmation.

It grows very common on Houses, Walls, and gravelly Banks, and flowers in June; it continues but a short time in blossom, but while it lasts its lively yellow colour gives a very pretty appearance to those Houses and Walls which are covered with it.



*Sedum acre* L.











*Lychnis Flos cuculi.*



# LYCHNIS FLOS CUCULI. MEADOW LYCHNIS.

LYCHNIS *Linnaei Gen. Pl.* DECANDRIA PENTAGYNIA.

*Raii Synopsis Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

LYCHNIS *Flos Cuculi* petalis quadrifidis fructu subrotundo. *Lin. Syst. Vegetab. p.* 361. *Sp. Pl.* 625.

LYCHNIS petalis quadrifidis. *Haller. hist. v. i. n.* 921.

CARYOPYLLUS pratensis, laciniato flore simplici, five Flos cuculi. *Bauhin. pin.* 210.

LYCHNIS plumaria fylvestris simplex. *Parkinson. parad.* 253.

ARMERIUS pratensis mas et foemina. *Gerard. Emac.* 600.

*Raii Synop. ed.* 3. 338. *Hudson. Fl. Angl.* 174. *Oeder. Flor. Dan. tab.* 590. *Scopoli. Fl.*

*Carniol. ed.* 2. p. 311.

RADIX	perennis, fibrosa, ex albido fusca, saporis sub-acris.	ROOT	perennial, fibrous, of a brownish white colour, and somewhat biting taste.
CAULIS	pedalis ad tripedalem, erectus, fulcato-angulatus, articulatus, geniculi tumidi, scabriusculus, purpurascens.	STALK	from one to three feet high, upright, somewhat angular and grooved, jointed, the joints swelled, roughish, and of a purplish colour.
FOLIA	Caulis, opposita, connata, lanceolata, carinata, suberecta, laevia.	LEAVES	of the Stalk opposite, connate, lanceolate, the midrib prominent underneath, upright and smooth.
PEDUNCULI	oppositi, plerumque unico intermedio.	PEDUNCLES	opposite, one generally intermediate.
CALYX:	PERIANTHIUM monophyllum, tubulatum quinquedentatum, decangulatum, purpureum, persistens. <i>fig.</i> 1.	CALYX	a PERIANTHIUM of one leaf, tubular, quinque-dentate, having ten angles, or ridges, and of a deep purple colour.
COROLLA	PETALA quinque, unguis longitudine calycis, <i>fig.</i> 2. LIMBUS quadrifidus, laciniis exterioribus brevioribus, et angustioribus, <i>fig.</i> 4. ad basin limbi laminæ duæ erectæ acutæ. <i>fig.</i> 3.	COROLLA	five petals, the claw the length of the Calyx, <i>fig.</i> 2. the LIMB divided into four laciniæ, the exterior shortest and narrowest, <i>fig.</i> 4. at the bottom of the limb are placed two small upright laminæ, <i>fig.</i> 3.
STAMINA:	FILAMENTA decem, subulata, quorum quinque breviora, <i>fig.</i> 5, brevioribus ungui petalorum affixis. <i>fig.</i> 6. ANTHERÆ oblongæ, biloculares, <i>fig.</i> 7. incumbentes, purpurascens.	STAMINA	ten FILAMENTS, tapering, five long and five short, <i>fig.</i> 5. the shorter filaments affixed to the claw of each petal, <i>fig.</i> 6. the ANTHERÆ oblong, bilocular. <i>fig.</i> 7. laying across the filaments, and of a purplish hue.
PISTILLUM	GERMEN subovatum, <i>fig.</i> 8. STYLI quinque subulati, subincurvati, <i>fig.</i> 10. STIGMATA simplicia. <i>fig.</i> 10.	PISTILLUM	the GERMEN somewhat oval, <i>fig.</i> 8. five STYLES tapering and bending a little inward, <i>fig.</i> 10. STIGMATA simple. <i>fig.</i> 10.
PERICARPIUM	CAPSULA ovata, unilocularis, ore quinquedentato, dentibus reflexis. <i>fig.</i> 9.	SEED-VESSEL	a CAPSULE, oval, of one cavity, the mouth having five teeth which turn back. <i>fig.</i> 9.
SEMINA	numerosa, subcompressa, scabriuscula, ex cinereo-fusca. <i>fig.</i> 11. 12.	SEEDS	numerous, flattish, rough, and of a brown ash colour. <i>fig.</i> 11. 12.

A variety of names hath been given to this Plant, as Meadow Pink, Cuckow Flower, Wild Williams, Ragged Robin, &c. Meadow Lychnis however seems to us the most eligible. It abounds in moist Meadows, where it flowers in May and June, and is included amongst the great number of which our Meadow hay is compounded. Goats, Sheep, and Horses are said to feed on it. The use to which it is applied, seems to be chiefly ornamental; the beauty of its flowers justly entitles it (with many other neglected British Plants) to a place in the Gardens of the curious: where it is frequently found with a double flower, making a beautiful appearance, and requiring little more care in its culture, than to be placed in a moist situation: It may be propagated either by seeds or slips; the seeds may be found ripe in the latter end of June, by the sides of ditches, where the Mower's Scythe has not reached them. We sometimes find the Meadow Lychnis growing wild with a double flower, and sometimes with a white one; but this is altogether accidental.

The agreement between the blowing of flowers, and the periodical return of birds of passage, has been attended to from the earliest ages: Before the return of the seasons was exactly ascertained by Astronomy, these observations were of great consequence in pointing out stated times for the purposes of Agriculture; and still, in many a Cottage, the birds of passage and their corresponding flowers assist in regulating

"The short, and simple Annals of the Poor."

For this reason, no doubt, we have several other plants that, in different places, go by the name of Cuckow Flower. Gerard says, Cardamine pratensis (Common Ladies Smock) is the true Cuckow Flower. *Shakespeare's* Cuckow Buds are of "yellow hue." By some the Orchis, Arum, and Wood-forrel are all called after the Cuckow.











*Cerastium aquaticum.*



# CERASTIUM AQUATICUM. MARSH CERASTIUM OR MOUSE-EAR CHICKWEED.

CERASTIUM *Linnaei* Gen. Pl. DECANDRIA PENTAGYNIA.

*Raii Synop. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

CERASTIUM *aquaticum* foliis cordatis, sessilibus, floribus solitariis, fructibus pendulis. *Linnaei Syst. Vegetab. p.* 363. *Fl. Suecic. p.* 157.

ALSINE foliis ovato-cordatis, imis petiolatis, tubis quinis. *Haller. hist. n.* 885.

STELLARIA aquatica. *Scopoli Fl. Carniol. p.* 320.

ALSINE aquatica major. *Baubin. pin.* 254.

ALSINE major. *Gerard emac.* 611. maxima *Parkinson* 759. *Raii Syn. p.* 347. *Hudson Fl. Angl. p.* 177.

RADIX perennis, fibrosa, repens.

CAULES bipedales, debiles, pene teretes, teneri, filosi, hirsuti, ramosi, rami alterni.

FOLIA Caulis sessilia, amplexicaulia, cordato-acuminata, margine in superioribus presertim undulata, lævia, subviscida; ramorum magis undulata, petiolata.

PEDUNCULI alterni, e dichotomia caulis, uniflori, post florescentiam penduli.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliis lanceolatis, concavis, subcarinatis, apice obtusiusculis, hirsutis, margine membranaceis, petalis paulo brevioribus. *fig.* 1.

COROLLA: PETALA quinque alba, patentia, bipartita, laciniis oblongis, nervosis, divaricantes, *fig.* 2. 3.

STAMINA: FILAMENTA decem, subulata, alba, receptaculo inserta, ad basin et inter petala alterne locata, *fig.* 4. quæ inter petala locantur paulo longiora sunt et glandula ad basin instruuntur *fig.* 5. ANTHERÆ infidentes, biloculares, albæ, *fig.* 4.

PISTILLUM: GERMEN subrotundum, apice fulcatum, STYLI quinque albi, filiformes, longitudine Germinis. STIGMATA simplicia, *fig.* 6.

PERICARPIUM: CAPSULA ovata, obsolete pentagona, ore quinquedentato. *fig.* 7.

SEMINA rufa, subreniformia, scabra, 60 numeravi, *fig.* 8. 9.

ROOT perennial, fibrous, and creeping.

STALKS about two feet in length, weak, almost round, tender, stringy, hirsute, and branched, the branches alternate.

LEAVES of the Stalk sessile, embracing the Stalk, somewhat heart shaped and acuminate, the edge particularly in the upper ones waved, smooth, and somewhat viscid; those of the branches more waved with short footstalks.

FOOTSTALKS alternate, from the forking of the Stalk, uniflorous, after the blossom is gone off pendulous.

CALYX: a PERIANTHIUM of five leaves, persisting, the leaves lanceolate, concave, slightly keel-shaped, bluntish at top, hirsute, at the edge membranous, and a little shorter than the Petals, *fig.* 1.

COROLLA: five PETALS white, spreading, divided almost to the bottom, the laciniæ or segments oblong, nervous, and divaricating, *fig.* 2. 3.

STAMINA: ten FILAMENTS, tapering, white, fixed to the receptacle, placed alternately, one at the base and one betwixt each petal, *fig.* 4; those placed between the petals are a little longer than the others, and furnished at bottom with a gland, *fig.* 5. ANTHERÆ white and bilocular, *fig.* 4.

PISTILLUM: GERMEN roundish, at top grooved, five STYLES thread-shaped, white, the length of the Germen. STIGMATA simple, *fig.* 6.

SEED-VESSEL: an oval CAPSULE, slightly pentangular, the mouth quinquedentate.

SEEDS reddish brown, rough, about 60 in each capsule, *fig.* 8. 9.

SOME of our modern and most celebrated systematic Botanists seem very much divided with respect to the Genus to which this Plant should belong. HALLER makes it an *Alsine* or *Chickweed*; SCOPOLI a *Stellaria*, and LINNÆUS a *Cerastium*. We shall not pretend to decide who is most in the right, but only observe that its general habit or appearance, and the form of its seeds, might easily induce HALLER to consider it as an *Alsine*; the shape of its petals, with the structure of its seeds, would justify SCOPOLI in calling it a *Stellaria*, while the number of its styles might lead LINNÆUS with propriety to place it among the *Cerastiums*. To us it appears to have the greatest natural affinity with the *Alsine media* or common *Chickweed*; it is true LINNÆUS ranks that plant among those which have five Stamina, yet it is frequently observed to have more, and the structure of the flower evidently shows it to be formed for having ten, and those flowers which have not that number may be considered as imperfect. The Seeds of these two plants are so similar as scarcely to be distinguished from each other, and their stalks are procumbent, tender, brittle, and stringy, indeed they frequently so much resemble one another, as to oblige the young Botanist to have recourse to the very different size of their flowers in order to discriminate them.

This Plant grows in moist places, on the banks of rivers and by streams of water, it flowers in July and August. SCOPOLI asserts that the plants of this kind afford excellent food for Kine.









# EUPHORBIA PEPLUS. SMALL GARDEN SPURGE.

EUPHORBIA *Linnaei Gen. Pl.* DODECANDRIA TRIGYNIA.

*Raii Syn. Gen. 22.* HERBÆ VASCULIFERÆ FLORE TETRAPETALO ANOMALÆ.

EUPHORBIA (*Peplus*) umbella trifida, dichotoma, involucellis ovatis, foliis integerrimis obovatis petiolatis. *Linn. Syst. Vegetab. p. 375. Fl. Suecic. p. 163.*

TITHYMALUS foliis rotundis, stipulis floralibus cordatis, obtusis, petalis argute corniculatis. *Haller. hist. vol. 2. p. 9. n. 1049.*

PEPLUS five *Efula* rotunda. *Baubin pin. 292. Parkinson. Gerard. emac. 503.*

TITHYMALUS parvus annuus, foliis subrotundis non crenatis, *Peplus* dictus. *Raii Syn. p. 313. n. 9: Petty Spurge. Hudson Fl. Angl. p. 182.*

RADIX annua, lignosa, simplex, fibrosa, albida.

CAULIS, suberectus, dodrantalis, teres, glaber, ramifus, basi durior, tenuior, subruher, foliosus, lactifluus.

RAMI pauci, sparsi, inferioribus longioribus oppositis.

UMBELLA trifida, dichotoma.

FOLIA obovata, petiolata, integerrima, sparsa, obtusiuscula, inferioribus subrotundis.

STIPULÆ *umbellæ* tres, ovato-acutæ, petiolis brevibus infidentes, *umbellulæ* alterne oppositæ, sessiles, cordato-ovatæ, inæquales, integerrimæ, basi quâ tendit germen quasi excavatæ.

CALYX ventricosus, persistens. *fig. 1.*

COROLLA nulla.

NECTARIA quatuor *bicorniculata*, *fig. 2.*

STAMINA plerumque duo, aut tria, visibilia, exserta: ANTHERÆ didymæ, subrotundæ, *fig. 3.*

PISTILLUM: GERMEN pedunculatum, nutans, triangulare, angulis longitudinaliter fulcatis, *fig. 4, 6: STIGMATA* tria, apice bifida, *fig. 5.*

PERICARPIUM: CAPSULA tricoeca, trilocularis, trivalvis, valvulis lævibus, et dum adhuc virides diffilientibus, *fig. 6.*

SEMEN unicum in singulo loculamento, ovatum, canum, *alveolatum*, appendiculatum, *fig. 7.*

N. B. Omnes partes fructificationis lente augentur.

ROOT annual, woody, simple, fibrous and whitish.

STALK generally upright, about nine inches high, round, smooth, and branched; at bottom harder, more slender, and of a reddish colour, leafy and milky.

BRANCHES few, not growing in any regular order, the lower ones longest and opposite.

UMBEL first trifid, then dichotomous.

LEAVES somewhat oval, but narrowest towards the base, having foot-stalks, entire at the edges, placed in no regular order, somewhat blunt, the lowermost leaves almost round.

STIPULÆ of the *large umbel* three in number, oval and pointed, placed on very short foot-stalks: of the *small umbel* alternately opposite, sessile, of an heart-shaped-oval form, unequal, and entire, at bottom on that side to which the Germen tends as if cut away.

CALYX bellying out and continuing, *fig. 1.*

COROLLA wanting.

NECTARIES four, each having *two little horns*, *fig. 2:*

STAMINA seldom more than two or three, which are visible, and placed without the Calyx: ANTHERÆ two on each filament joined together, of a roundish figure, *fig. 3.*

PISTILLUM: GERMEN placed on a foot-stalk, hanging down, triangular, the angles longitudinally grooved, *fig. 4, 6: STIGMATA* three, bifid at top, *fig. 5.*

SEED-VESSEL: a CAPSULE of three cavities, and three valves, the valves protuberant, smooth, and splitting with a kind of elasticity even while they are of a green colour, *fig. 6.*

SEED one in each cavity, oval, grey, with *numerous depressions on its surface*, and a little white button at one end, *fig. 7.*

N. B. All the parts of fructification are magnified.

MANY of the Spurges considerably resemble one another, and two of them that have this affinity, grow frequently together in Gardens, viz. the present Spurge, *Euphorbia Peplus*, and the Sun Spurge, *Euphorbia Helioscopia*; they may be distinguished however by the slightest attention. In the *Helioscopia* the leaves are *notched* or *serrated* at the edges, in the *Peplus* they are *entire*, in the *Helioscopia* the Petals or rather Nectaria are *round* and *entire*, in the *Peplus* each is furnished with *two little horns*, *fig. 2*; there are other marks of distinction but these are the most striking.

This species grows in Gardens and other cultivated ground, and flowers in Autumn.

The milky fluid which it abounds with, is by some applied to Warts, which it is said to destroy.

Most if not all the plants of this Genus contain in them this milky and gummy substance, which to the taste is exceedingly acrid; and this lactifluous property, joined to the peculiarity of its parts of fructification, point out almost at first sight this natural family of plants. But the botanic Student who would investigate this species according to the principles of the Linnæan System, not having these characteristics to assist him, finds a considerable difficulty in learning even the *Class* to which it belongs, nor is it possible for him to ascertain the *Class* by an examination of this or scarce any other English Spurge: the *Stamina* in the first place are very minute, it is seldom that more than *two* or *three* protrude beyond the Calyx, all the rest lie concealed within it, they seldom amount to *twelve* in number, and even if they did amount to that exact number, their *minuteness* and the *milky juice* which flows from the dissection, render the enumeration of them scarce practicable. The Student may however in a great degree surmount this difficulty, by an examination of some plant of this genus, which is larger in every respect, and the *Euphorbia Lathyris* improperly called the *Caper Tree*, (which is cultivated in many Gardens) will afford him a very good example, and tend to give him a clear idea of the flower and fruit of this singular genus of plants.

I would not be thought on account of this difficulty to inveigh against LINNÆUS's System, being sensible that difficulties occur, and must occur in all botanic arrangements, and instead of selecting faults inseparable from every mode of classification, (which seems to have been a favourite amusement of some Authors, and forms indeed the greatest part of their writings) I would use every endeavour to make it more perfect.

It is too much the fashion now, as well as formerly, for every Botanist as soon as he thinks he has some pretensions to eminence, to set about the arduous task of framing a new System; he may by this means give the public some idea of his self-consequence, and be inrolled in the Catalogue of System-makers, but not one jot will he advance the science of Botany. It is to be regretted that Botanists will not be contented with a System, a proof of whose superiority is the almost general reception it has met with throughout Europe, and unite in their endeavours to render that System more complete, by giving us an accurate account of the history of those plants not already given, their virtues and uses; this appears to me to be the true method of advancing this delightful Science, and making it useful to Mankind.

When one System of Botany is generally followed as is nearly the case at present, Botanists in different kingdoms perfectly understand each others language, but when each adopts a separate one, (which is frequently dictated by Pride or Caprice) all becomes Babel; and every one who wishes to acquire a knowledge of the plants treated of, must at considerable expence both of time and labour, acquire first the Authors new-created System-language, a tax which it is hoped every true Botanist will unite to oppose.





*Euphorbia Deplus*









# EUPHORBIA HELIOSCOPIA. SUN SPURGE OR WART-WORT.

EUPHORBIA *Linnaei Gen. Pl.* DODECANDRIA TRIGYNIA.

*Cor.* 4-l. 5-petala, calyci infidens. *Cal.* 1-phyllus, ventricofus.

*Caps.* 3-cocca.

*Raii Syn. Gen.* 22. HERBÆ VASCULIFERÆ, FLORE TETRAPETALO ANOMALÆ.

EUPHORBIA umbella quinquefida : trifida : dichotoma, involucellis obovatis, foliis cuneiformibus serratis. *Linn. Syst. Vegetab.* p. 377. *Sp. Plant.* 658. *Fl. Suecic.* p. 162.

TITHYMALUS foliis petiolatis, subrotundis, serratis, stipulis rotundis, serratis. *Haller hist. v. 2.* p. 10. n. 1050.

TITHYMALUS *helioscopius.* *Scopoli Fl. Carniol.* p. 337. n. 579:

TITHYMALUS *helioscopius.* *Bauhin Pin.* 291. *Gerard emac.* 458. *Parkinson.* 189.

TITHYMALUS *helioscopius* fivefolifequus. *I. B.* 3. 669. *Raii Syn.* 313. *Hudson Fl. Angl.* p. 183.

RADIX simplex, fibrosa, annua.

CAULIS erectus, teres, pilosus, inferne brachiatus, brachiis oppositis.

FOLIA sparsa, pauca, glabra, *ferrata*, cuneiformia, inferiora petiolata, superiora sessilia.

UMBELLA quinquefida, trifida, dichotoma, patens, fastigiata.

STIPULÆ minute ferratæ, glabræ, UMBELLÆ quinque, obovatæ, horizontales, æquales, *Umbellulæ* tres, ovatæ, inæquales, interiore duplo minore, quæ sequuntur mucrone terminatæ.

CALYX subventricofus, flavescens, *fig. 1.*

COROLLA nulla.

NECTARIA quatuor, subrotunda, nuda, *fig. 2.*

STAMINA : FILAMENTA duo, tria, aut plura, visibilia, exserta ; ANTHERÆ flavæ, biloculares, loculis subrotundis, *fig. 3.*

PISTILLUM : GERMEN pedunculatum, subrotundum, nutans ; STIGMATA tria, apice bifida, *fig. 4, 5.*

PERICARPIUM : CAPSULA tricoeca, trilocularis, trilobis, *fig. 6.*

SEMEN unicum in singulo loculamento, ovatum, rugosum ex purpureo fuscum, *fig. 7.*

ROOT simple, fibrous, annual.

STALK upright, round, slightly hairy, below branched, the branches opposite.

LEAVES growing in no regular order, few, smooth, *ferrated*, and wedge-shaped, the lower ones standing on foot-stalks, the upper ones sessile.

UMBELL dividing into five, next three, then two, spreading, of an equal height at top.

STIPULÆ minutely ferrated and smooth, those of the UMBELL five, somewhat oval, spreading horizontally, and equal ; those of the *smaller* UMBELL three, oval, unequal, the interior one twice as small as the others ; those which follow terminating in a point.

CALYX somewhat swelled, of a yellowish colour, *fig. 1.*

COROLLA wanting.

NECTARIA four, roundish and naked, *fig. 2.*

STAMINA : two, three, or more FILAMENTS, visible beyond the Calyx ; ANTHERÆ yellow, bilocular, the cavities containing the Pollen roundish, *fig. 3.*

PISTILLUM : GERMEN placed on a foot-stalk, roundish, hanging down ; STIGMATA three, bifid at top, *fig. 4, 5.*

SEED-VESSEL a CAPSULE of three protuberating valves, and three cavities, *fig. 6.*

SEEDS one in each cavity, oval, wrinkled, of a purplish brown colour, *fig. 7.*

IN speaking of the *Euphorbia Peplus*, I had occasion to take notice of the difficulty which Students in Botany find in investigating the *Class* and *Order* of this Genus, and endeavoured to make it easier to them : in this plant the parts of the fructification are somewhat larger ; and it differs from the other Spurges in having its leaves finely ferrated. In its acrimonious quality it is inferior to none ; hence it has often been applied to Warts for the purpose of destroying them ; but even in this case, great care should be used in its application. My friend Mr. WILLIAM WAVELL lately informed me of a case which fell under his notice in the Isle of Wight, where from the application of the juice of this Spurge to some Warts near the eye of a little girl, the whole face became inflamed to a very great degree.

It is very common in gardens and cultivated ground, flowering in Autumn.





*Euphorbia Helioscopia*.









# POTENTILLA REPTANS. COMMON CINQUEFOIL OR FIVE LEAVED GRASS.

POTENTILLA *Linnaei* Gen. Pl. ICOSANDRIA POLYGYNIA:

*Raii* Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.

POTENTILLA *reptans* foliis quinatis, caule repente, pedunculis unifloris. *Lin: Syst. Vegetab. p. 398. Fl. Succic. p. 178.*

FRAGARIA foliis quinatis ferratis, petiolis unifloris, caule reptante. *Haller hist. v. 2. p. 47.*

QUINQUEFOLIUM majus repens. *Baubin pin. p. 325. Gerard emac. 987.*

PENTAPHYLLUM vulgatissimum *Parkinson 398. Raii Syn. p. 255.*

POTENTILLA *reptans. Hudson. Fl. Angl. p. 197. Scopoli Fl. Carniol. p. 361*

RADIX	perennis, fusiformis, paucis fibrillis instructa, intra terram profunde penetrans, crassitie digiti minimi aut pollicis etiam in annosis, externe fordide castanea.	ROOT	perennial, tapering, furnished with few fibres, penetrating deeply into the earth, the size of the little finger, or even of the thumb when old, externally of a dark chestnut colour.
CAULES	numerosi, teretes, glabri, repentes, purpurei.	STALKS	numerous, round, smooth, and creeping.
FOLIA	quinata, etiam septena occurrunt, ferrata, venosa, inæqualia, parum hirsuta, petiolis longis indidentia, per paria e geniculis caulium ad magna intervalla prodeuntia.	LEAVES	quinate, or growing five together, sometimes even seven, ferrated, veiny, unequal in their size, slightly hairy, sitting on long footstalks, which proceed in pairs from the joints of the stalks at considerable distances.
STIPULÆ	geminæ, trifoliatæ, foliolis ovatis.	STIPULÆ	growing in pairs, composed of three oval-shaped leaves.
PETIOLI	uniflori, longi, suberecti.	FOOT-STALKS	of the flowers uniflorous, long, and nearly upright.
CALYX:	PERIANTHIUM monophyllum, planiusculum, decemfidum, laciniis alternis minoribus, sæpe reflexis, fig. 3, 4, 5.	CALYX:	a PERIANTHIUM of one leaf, flattish, divided into ten segments, the segments alternately smaller and frequently turned back, fig. 3, 4, 5.
COROLLA:	PETALA quinque, subrotundo-cordata, flava, unguibus calyci inserta, fig. 6.	COROLLA:	five PETALS of a roundish heart-shaped figure, and yellow colour, inserted into the Calyx by their Ungues or claws, fig. 6.
STAMINA:	FILAMENTA viginti, subulata, Corolla breviora, margini interiori glandulosæ calycis inserta, in duas series distributa; ANTHERÆ oblongæ, compressæ, flavæ, biloculares, loculæ membranâ divisæ, infidentes, fig. 7, 8.	STAMINA	twenty FILAMENTS tapering; shorter than the Corolla, inserted into the inner edge of the Calyx, which puts on a glandular appearance, and placed in two rows; ANTHERÆ oblong, flat, bilocular, the bags or cavities divided by a membrane, sitting on the filaments, fig. 7, 8.
PISTILLUM:	GERMINA numerosa, in capitulum collecta; STYLI filiformes filamentis breviores, lateri Germinis inserti, persistentes; STIGMATA minima, obtusa, fig. 9, 10.	PISTILLUM:	the GERMINA numerous, collected into a little head; the STYLES filiform, shorter than the filaments, inserted into the side of the Germin and continuing; the STIGMATA very small and blunt, fig. 9, 10.
SEMINA	numerosa, parva, fusca, stylo persistente terminata, fig. 11, 12.	SEEDS	numerous, small, brown and terminated by the Style, fig. 11, 12.

The Roots of *Cinquefoil* and many other plants of the Class *Icosandria*, possess considerable virtues as astringent medicines, and may be used in the same Cases in which *Bistort* is recommended.

It has likewise been used in some places for the purpose of tanning Leather where better materials for that purpose are with difficulty acquired.

A Tea or infusion of the leaves is in use among the Country People as a drink in Fevers.

Most sorts of Cattle are fond of the leaves, but it does not appear to be a plant worth cultivating on that account.

The Larva or Caterpillar of the *Phalena Rubi*, *vid. Roessel, Suppl. tab. 69, Albin tab. 81*, feeds on the leaves in Autumn, although a plant to which that Insect is by no means confined.

It grows very common in meadows and on banks by the road sides, and flowers in July, August, and September.

It affords the botanic Student a very good example of the *Caulis repens* or *Creeping Stalk*.





*Potentilla reptans*











*Ranunculus bulbosus.*

*J. Smith pinax script*



# RANUNCULUS BULBOSUS. ROUND-ROOTED OR BULBOUS CROWFOOT.

RANUNCULUS *Linnæi Gen. Pl. POLYANDRIA POLYGYNIA.*

*Raii Syn. Gen. 15. HERBÆ SEMINE NUDO POLYSPERMÆ.*

RANUNCULUS *bulbosus*, calycibus retroflexis, pedunculis fulcatis, caule erecto multifloro, foliis compositis.  
*Linnæi Syft. Vegetab. p. 430. Sp. Pl. 778. Fl. Suecic. 196.*

RANUNCULUS radice subglobosa, foliis hirsutis, semitrilobis, lobis petiolatis acute ferratis. *Haller. hist. v. 2. p. 74.*

RANUNCULUS *Scopoli Fl. Carn. v. 1. p. 400. DIAGN. Radix globosa. Calyces reflexi. Squamula nectarifera obtuse trigona.*

RANUNCULUS *pratensis radice verticilli modo rotunda. Baubin. pin. 179. Fuschii Icon. 160. Gérard. émac. 953. Parkinson 329. Raii Synop. 247. Hudson Fl. Angl. 211. Fl. Dan. Icon. 551.*

RADIX perennis, *subrotunda*, albida, solida, superne et inferne depressior, hinc radicem Rapæ quodammodo referens.

CAULIS pedalis, teres, *erectus*, fistulosus, hirsutus, ramosus.

FOLIA *radicalia* petiolis longis, hirsutis, basi vaginantibus infidentia, subprocumbentia, hirsuta, venosa, trilobata, lobo medio majori et longius petiolato, semitrifido, segmentis acute incis; lobis lateralibus trifidis, segmentis inferioribus profundius divisis; caulina subseffilia in laciniis plures tenuiores divisa.

PEDUNCULI *fulcati.*

CALYX: PERIANTHIUM pentaphyllum, foliolis ovatis, concavis, *reflexis*, pilosis, apice obtusiusculis, margine membranaceis, basi *subpellucidis*, *fig. 1.*

COROLLA PETALA quinque obcordata, flava, nitentia, *fig. 2.*

NECTARIUM: squamula flava subemarginata ad basin petali *fig. 3.*

STAMINA: FILAMENTA plurima, receptaculo inserta; ANTHERÆ oblongæ, flavæ, subincurvatae, *fig. 4.*

PISTILLUM: GERMINA numerosa in capitulum collecta; STYLI nulli; STIGMATA minima reflexa, *fig. 5.*

SEMINA plurima compressa, fusca, mucronata, lævia, arillata, *fig. 6.*

*Fig. 7. ARILLUS, fig. 8. semen denudatum.*

ROOT perennial, *roundish*, white and solid, flattened a little both at top and bottom, hence somewhat resembling a Turnep.

STALK a foot high, round, *upright*, hollow, hairy and branched.

LEAVES: the *radical* leaves placed on long hairy foot-stalks, which at bottom embrace the stalk, somewhat procumbent, hairy, veiny, and divided into three lobes; the mid-lobe largest and placed on a longer foot-stalk than the others, divided half way down into three segments which are sharply cut in; the side-lobes trifid, the lower segments more deeply divided than the others; the leaves of the *stalk* nearly seffile, deeply divided into numerous and narrower segments.

FOOT-STALKS of the flowers *grooved.*

CALYX: a PERIANTHIUM of five leaves, the leaves oval, hollow, *turned back* and hairy, blunty at top, membranous at the edges, *thin and somewhat transparent* at bottom, *fig. 1.*

COROLLA: five PETALS, heart-shaped, yellow, and shining, *fig. 2.*

NECTARY: a small yellow scale at the bottom of the petal, with a slight indentation at top, *fig. 3.*

STAMINA; FILAMENTS numerous and inserted into the receptacle; ANTHERÆ oblong, yellow, and bending a little inwards, *fig. 4.*

PISTILLUM: GERMINA numerous, collected into a little head; STYLES none; STIGMATA very small and bending back, *fig. 5.*

SEEDS numerous, flat, brown, smooth, pointed, and covered with an Arillus, *fig. 6.*

*Fig. 7. the ARILLUS, fig. 8. the seed taken out of it.*

THIS *Crowfoot* has been considered by some Authors as the same Species with the *Ranunculus repens*, but certainly without any propriety, for there can be no doubt but they are as distinct as any two species of *Ranunculus* whatever. It is distinguished from the *repens* by several peculiarities, the principal of which are, 1<sup>st</sup>, its *reflexed calyx*, the turning back of which does not depend on any accidental circumstances, but solely on its particular structure; if it be plucked off, and held up to the light, the lower half of it will appear thin and almost transparent, hence not having a sufficient degree of solidity to support itself upright, it is reflected downwards;—2<sup>dly</sup>, the root in this species is *round*, and *solid*; in the *repens* it is *fibrous*: and 3<sup>dly</sup>, (which perhaps may be considered as the most essential difference) the stalk of the *bulbosus* is never known to *throw out any Stolones or Creepers*, which the *repens* always does in every soil and situation.

This Species blows earlier than either the upright or creeping *Crowfoot*, and is the second flower, which next to the Dandelion covers our meadows and pastures with that delightful yellow, which almost dazzles the eye of the beholder.

Like the rest of the *Crowfoots* it possesses the property of inflaming and blistering the skin, but more particularly the Root, which is said to raise blisters with less pain and more safety, than Spanish flies; and hence where Blisters have been thought necessary, these roots have been applied for that purpose, particularly to the Joints in cases of the Gout. On being kept they lose their stimulating quality, and are even eatable when boiled.

HOFFMAN informs us that Beggars make use of them to blister their skins in order to excite compassion.

The Juice of this herb is said to be more acrid than that of the *Ranunculus sceleratus*, and if applied to the nostrils it provokes sneezing.

Hogs are fond of the roots and will frequently dig them up.

It abounds in dry pastures, and flowers in May; it is cultivated when double as well as the upright meadow *Crowfoot*, which last occurs in almost every Garden, under the name of *Yellow Batchelors Buttons*.











*Ranunculus acris.*

# RANUNCULUS ACRIS. UPRIGHT MEADOW CROWFOOT.

RANUNCULUS *Linnæi* Gen. Pl. POLYANDRIA POLYGYNIA.

*Raii* Gen. 15. HERBÆ SEMINĒ NUDO, POLYSPERMÆ.

RANUNCULUS *acris* calycibus patulis, pedunculis teretibus, foliis tripartito-multifidis, fummis linearibus.  
*Linnæi Syst. Vegetab.* p. 430. *Fl. Suecic.* p. 196.

RANUNCULUS foliis hirsutis, semitrilobatis, lobis lateralibus bipartitis, foliis caulinis semitrilobis. *Haller.*  
*hist. n.* 1169.

RANUNCULUS *pratensis* erectus *acris*. *Baubin.* pin. 178. *Gerard. emac.* 951. *Parkinson* 329. *Raii Synopsis,*  
p. 248. *Hudson. Fl. Angl.* p. 211. *Scopoli. Fl. Carniol.* p. 398.

RADIX	perennis, e pluribus radiculis albidis constans.	ROOT	perennial, consisting of numerous white fibres.
CAULIS	bipedalis, erectus, fistulosus, teres, subpilosus, apice ramosus.	STALK	generally about two feet high, upright, hollow, round, somewhat hairy, much branched at top.
FOLIA	<i>Radicalia</i> petiolis longis erectis infidentia, tripartita, lobo medio trifido, lateralibus bilobis, omnibus acute dentatis aut incis, subhirsutis, supernè ad basin præsertim sæpe purpureis, venis subtus extantibus. <i>Caulina</i> radicalibus similia, in lacinias tenuiores vèro divisa et petiolis brevioribus infidentia, tandem linearia, sessilia. PETIOLI cum vaginis hirsuti.	LEAVES:	<i>Radical</i> leaves standing on long upright footstalks, tripartite, the middle lobe trifid, the side ones bilobous, and all of them sharply indented, slightly hirsute, the upper surface particularly at the base frequently of a purple colour, the veins underneath prominent Leaves of the <i>Stalk</i> like the radical leaves, but more finely divided, and standing on shorter footstalks, at top linear and sessile. The <i>FOOTSTALKS</i> with their sheaths hairy.
PEDUNCULI	teretes.	FOOT-STALKS	of the Flowers round:
CALYX:	PERIANTHIUM pentaphyllum, patens, flavescens, pilosum, foliolis ovatis, concavis, obtusis, margine membranaceis, fig. 1.	CALYX:	a PERIANTHIUM of five leaves, spreading, of a yellow colour and hairy, the leaves oval, concave, and membranous at the edges, fig. 1.
COROLLA:	PETALA quinque flava, nitentia, subcordata nunc emarginata, nunc integra, fig. 2.	COROLLA:	five PETALS, yellow and shining, nearly heart-shaped, sometimes notched, sometimes entire, fig. 2.
STAMINA:	FILAMENTA plurima, apice paululum dilatata, fig. 5. 4. ANTHERÆ flavæ, subincurvatæ, obtusæ, fig. 4.	STAMINA:	FILAMENTS numerous, a little dilated at top, fig. 5. 4. ANTHERÆ yellow, obtuse, bending a little inward, fig. 4.
NECTARIUM:	squamula emarginata, ad basin petalorum, fig. 3.	NECTARY:	a small scale, slightly notched at top, at the base of each Petal, fig. 3.
PISTILLUM:	GERMINA numerosa, in capitulum collecta, STYLI nulli; STIGMATA reflexa, fig. 6.	PISTILLUM:	GERMINA numerous, forming a little head; STYLES none, STIGMATA reflex, fig. 6.
SEMINA:	plurima, subrotunda, compressa, fusca, apice reflexa. fig. 7.	SEEDS	numerous, roundish, flat, of a brown colour, bending back at the tip, fig. 7.

Most of the Ranunculi or Crowfoots are acrid and in some degree poisonous, and the species above described possesses this property in a very considerable degree; hence Linnæus has given it the name of *acris*; even pulling up the plant and carrying it to some little distance we have known sufficient to produce a considerable inflammation in the palm of of the person's hand who held it. Cattle in general will not eat it, yet sometimes when they are turned hungry into a new field of Grass, or have but a small spot to range in they will feed on it, and hence their mouths, as we have been credibly informed, have become sore and blistered. When made into hay it loses its acrid property, but is too stalky and hard to afford good Nourishment. It should seem therefore to be the interest of the Farmer as much as possible to root out this species from his Meadows that its place may be supplied with good sweet grass.

It grows too frequently in most of our meadows, and flowers in June and July.

The common people about Town and in many parts of the country call this and the other yellow Crowfoots by the names of *Butter-cups* and *Butter-flowers*, and this name seems to have originated from a supposition that the yellow colour of butter was owing to these plants; that this should be the case seems scarce probable, certainly it receives no good taste from it.









# CALTHA PALUSTRIS. MARSH-MARIGOLD.

CALTHA *Linnaei Gen. Pl.* POLYANDRIA POLYGYNIA *Cal.* 6. Petala quinque. Nectaria 6. *Capsulae* plures polyspermæ.

*Raii Syn.* HERBÆ MULTISILIQUÆ SEU CORNICULATÆ.

CALTHA palustris. *Linnaei Syst. Vegetab. p.* 432. *Flor. Suecic.* 198.

CALTHA *Haller. hist. helv. p.* 32. n. 1188.

POPULAGO palustris. *Scopoli Fl. Carniol. p.* 404.

CALTHA palustris flore simplici. *Baubin pin* 276.

POPULAGO. *Tournefort. Tabernamont.*

CALTHA palustris vulgaris simplex. *Parkinson* 1213.

CALTHA palustris major. *Gerard. emac.* 817.

*Raii Syn.* 272. Marsh Marigold. *Hudson Fl. Angl. p.* 214.

RADIX perennis, e plurimis fibris, teretibus, majusculis, albidis, constans.

CAULES ex eadem radice nascuntur plures, suberecti, pedales, fistulosi, pene teretes, glabri, ramosi, ad basin purpurei.

FOLIA *radicalia* petiolata, cordato-reniformia, glabra, crenata, *caulina* subsessilia, ad apicem acutiora, et acute crenata.

STIPULÆ fuscæ, membranaceæ, marcescentes.

RAMI dichotomi.

PEDUNCULI uniflori, erecti, sulcati.

CALYX nullus.

COROLLA: PETALA plerumque quinque, flava, magna, subrotundo-ovata, plana, patentia, superne non splendentia, *fig.* 1.

STAMINA: FILAMENTA numerosa, filiformia, Corollâ breviora, ANTHERÆ oblongæ, compressæ, incurvatæ, flavæ, *fig.* 2.

PISTILLUM: GERMINA quinque ad decem, oblonga, compressa, erecta; STYLI nulli; STIGMATA simplicia, *fig.* 3.

PERICARPIUM: CAPSULÆ totidem, acuminatæ, patentes, futurâ superiore dehiscentes, *fig.* 4.

SEMINA plurima, subovata, pulchra, inferne olivacea, superne rufa, *fig.* 5.

ROOT perennial, consisting of numerous, round, large, white fibres.

STALKS: several arise from the same root, almost upright, about a foot high, hollow, nearly round, smooth, branched, and purple at bottom.

LEAVES: the *radical* leaves placed on long foot stalks, betwixt an heart and kidney shape, smooth, shining, and notched or crenated; the leaves of the STALK nearly sessile, more pointed at top, and sharply crenated.

STIPULÆ brown, membranous and withered.

BRANCHES dichotomous.

PEDUNCLES supporting one flower, upright, and grooved.

CALYX wanting.

COROLLA generally consists of five large PETALS of a roundish oval shape and yellow colour, flat, spreading, and without any gloss on the upper side, *fig.* 1.

STAMINA: FILAMENTS numerous, filiform, shorter than the Corolla; ANTHERÆ oblong, flat, bending inward, and of a yellow colour, *fig.* 2.

PISTILLUM: GERMINA from five to ten, oblong, flattish, and upright; STYLES none; STIGMATA simple, *fig.* 3.

SEED-VESSEL: so many CAPSULES as Germina, pointed, and spreading, opening at the superior future, *fig.* 4.

SEEDS numerous, somewhat oval, beautiful, at bottom of an olive, and at top of a reddish colour.

LINNÆUS informs us that the *Caltha* is the first flower which proclaims the Spring in *Lapland*, and that it begins to blow about the end of May; with us it usually flowers in March and April, and last Spring, 1775, this plant was found in Blossom in the month of February, so remarkably forward was the Spring of that year.

It grows in wet Meadows and by the sides of Rivers, where it makes a very noble appearance, and when double, is often cultivated in Gardens, where it will grow very readily if the soil be favourable.

In the Country, Children collect it to ornament their Garlands on May day.

I scarce ever observed the leaves to be eaten by any animals, but the flowers are often destroyed by a species of CHRYSOMELA.

HALLER says that it is acrid and caustic and yet that it is eaten by Cows.

The flower Buds are pickled and used as Capers.





*Caltha palustris.*











*Verbena officinalis*



# VERBENA OFFICINALIS. VERVAIN.

VERBENA *Lin. Gen. Pl. DIDYNAMIA GYMNOSPERMIA.*

*Raii Gen. 14. SUFFRUTICES, ET HERBÆ VERTICILLATÆ.*

VERBENA *officinalis, tetrandra, spicis filiformibus, paniculatis; foliis multifido-laciniatis, caule solitario.*  
*Lin. Syst. Vegetab. p. 62.*

VERBENA *foliis tripartitis rugosis, spicis nudis gracilissimis* *Haller. hist. v. 1. p. 96.*

VERBENA *communis cæruleo flore. Bauhin, Pin. 269. mas, feu recta et vulgaris. Parkinson 674. communis*  
*Gerard 664. Raii Syn. 236. Hudson Fl. Angl. p. 505. Scopoli Fl. Carniol. p. 433:*

**RADIX** perennis, lignosa, crassitie digiti minimi, raro major, in terram profunde penetrans, fibrosa, lutescens, sapore subamaro.

**CAULES** plerumque plures ex eadem radice, erecti, pedales aut bipedales, quadrangulares, duo latera excavata, duo subconvexa, sulcata, idque alterne, aculeis brevibus armati, brachiati.

**FOLIA** opposita, sessilia, venosa, profunde dentata, aut incisa, ad basin angustiora.

**FLORES** in spicas longas, filiformes, erectas dispositi, BRACTEA ovato-lanceolata, acuminata, calyce breviora suffulti, *fig. 11.*

**CALYX**: PERIANTHIUM monophyllum, angulatum, quinque-dentatum, *denticulo quinto minimo, persistens, fig. 1, 2, 3.*

**COROLLA** monopetala, inæqualis, purpurascens, TUBUS cylindraceus, incurvatus; FAUX villosa, *fig. 5*; LIMBUS quinquefidus, laciniis rotundatis, subæqualibus, *fig. 4.*

**STAMINA**: FILAMENTA quatuor brevissima, vix conspicua, ANTHERÆ quatuor, quarum duæ breviores reliquis, ejusdem formæ cum Didynamiis *fig. 6.*

**PISTILLUM**: GERMEN tetragonum, STYLUS filiformis apice paululum incrassatus; STIGMA obtusum *fig. 7.*

**PERICARPIUM** nullum, Calyx continens Semina.

**SEMINA** quatuor, oblonga, obtusa, interne planiuscula *alba, externe fusca, convexa, sulcato-reticulata fig. 8, 9, 10.*

**ROOT** perennial, woody, about the thickness of the little finger, seldom larger, running deep into the earth, fibrous, of a yellowish colour, and slightly bitter taste.

**STALKS**: in general several arise from the same root, upright, from one to two feet high, four square, two sides hollowed out, two roundish and grooved, and that alternately, armed with short prickles, the branches alternately opposite.

**LEAVES** opposite, sessile, veiny, deeply indented or cut in, narrowest at bottom.

**FLOWERS** disposed in long filiform erect spikes, supported by an oval pointed FLORAL-LEAF shorter than the Calyx, *fig. 11.*

**CALYX**: a PERIANTHIUM of one leaf, quinque-dentate, *the fifth tooth exceedingly minute, continuing, fig. 1, 2, 3.*

**COROLLA** monopetalous, unequal, purplish, the TUBE cylindrical and crooked, the MOUTH villous, *fig. 5.* the LIMB divided into five segments, which are round and nearly equal, *fig. 4.*

**STAMINA**: four FILAMENTS very short and scarce conspicuous, four ANTHERÆ two of which are above the others, of the same form with those of the Class Didynamia in general, *fig. 6.*

**PISTILLUM**: the GERMEN four square, the STYLE filiform, growing thicker towards the extremity, the STIGMA obtuse, *fig. 7.*

**PERICARPIUM** wanting, the Calyx containing the Seeds.

**SEEDS** four, oblong, obtuse, on the inside flatish and white, on the outside brown, convex, grooved and reticulated, *fig. 8, 9, 10.*

The Vervain may be considered as a kind of domestic plant, not confined to any particular soil, but growing by the road sides, pretty universally at the entrance into Towns and Villages.

It produceth its blossoms in the months of August and September.

There is only one Species of this Genus which grows wild in this country, but in different parts of the world the species are numerous, and what is remarkable, some have four and others but two Stamina, hence LINNÆUS ranks them among his *Diandrous* plants, making a division of them into such as have *flores Diandri* and *flores Tetrandri*. As our species hath four Stamina, two of which are above the other two, as the Style proceeds from the center of the four united Germina, and as four naked seeds follow, which are contained within the Calyx, we have placed it with SCOPOLI among the *Didynamia Gymnospermia* plants, a Class to which the botanic Student, who had been instructed in the Linnæan principles of Botany, would readily have been induced to refer it.

The seed of this plant has something remarkably curious in its appearance, on the inside it is of a snowy white, externally brown, and beautifully reticulated.

The Plant which the Romans called *Verbena*, appears to have been used on particular occasions at a very early period, as a token of mutual confidence betwixt them and their Enemies. It was also constantly applied to the purposes of Superstition and Enchantment, in making wreaths and brooms for their Altars, and chaplets for their Priests. It is probable from *Pliny's* account, that the plant which we now describe was the same with that of the Antients, but in a larger sense, they called the Laurel and Myrtle or whatever was bound round the Altar *Verbena*. The dry harsh nature of this herb, agrees but ill with the *Pinguis Verbena* of Virgil, perhaps it acquired that title from being anointed with the fat of the sacrifice.

In later times Vervain has been accounted a sovereign remedy in a multitude of disorders; SCHRODER recommends it in upwards of thirty different complaints, on which Mr. Ray judiciously observes "*Mirum tot viribus pollere plantam nulla insigni qualitate sensibili dotatam*"! strange that a plant which inherits no remarkably sensible quality should possess so many virtues!

Mr. Morley a late writer on the Vervain, considers it as extremely useful in the cure of the Schrophula or Kings evil, and in his Essay on the nature and cure of Schrophulous diseases, has given us a figure of the plant with particular directions for its use, which consists in hanging the root (which is to be of a larger or smaller size according to the age of his Patients) tied with a yard of white fatten ribband round the neck, there to be worn till they recover.

Those who know any thing of the effects of Medicines on the human body, will not easily be persuaded that such a kind of application can produce any very wonderful effect in this case, even making the greatest allowance for the powers of the imagination; and Mr. Morley as if sensible of the inefficacy of his Vervain Amulet, calls to his assistance a number of powerful medicines, among others we find Mercury, Antimony, Hemlock, Jalap, &c; and by a repeated and oftentimes a long continued application of Baths, Cataplasms, Ointments, Poultices, Plaisters, &c. and the exhibition of gentle purges and alterative medicines, some have been relieved and others cured; but can any one hence infer with any degree of reason that the Vervain Root had any share in the cure? certainly no; out of all Mr. Morley's cases there is not one which proves it, and the virtues of this plant still remain to be ascertained by rational experiments.

It should be observed that the Schrophula is a disease which at certain periods of life and at certain seasons of the year, is liable to be much worse than at others, and frequently exceeding bad cases of this kind have been cured by the most simple applications.

Many people have no doubt applied to Mr. Morley from a supposition that his motives were perfectly disinterested, and it must be confessed that there are Empirics much more mercenary and infinitely more dangerous; yet it does not appear but Mr. Morley acts nearly on the same principle with other Practitioners in Physick, with this difference indeed, that they receive their fees in specie, he takes his in kind.

That we may not be thought to act disingenuously by Mr. Morley we shall quote his own words—"Many many Guineas have been offered me but I never take any money. Sometimes indeed genteel People have sent me small acknowledgements of Tea, Wine, Venison, &c. Generous ones, small pieces of Plate or other little Presents. Even neighbouring Farmers a Goose or Turkey, &c. by way of Thanks."









# LAMIUM PURPUREUM. RED LAMIUM OR DEAD NETTLE.

LAMIUM *Linnaei Gen. Pl.* DIDYNAMIA GYMnospermia. Corollae labium superius integrum, fornicatum, labium inferius bilobum; faux utrinque margine dentata. *Lin. Descrip. Gen. abbrev.*

*Raii Syn. Gen.* 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

LAMIUM *purpureum* foliis cordatis obtusis petiolatis. *Linnaei Syst. Vegetab. p.* 446. *Sp. Pl.* 809. *Fl. Succic.* 203.

LAMIUM foliis cordatis, obtusis, in summo ramo congestis. *Haller. hist. v.* 1. 118.

LAMIUM *purpureum.* *Scopoli Fl. Carniol. p.* 407. n. 701.

LAMIUM *purpureum* fœtidum, folio subrotundo, five Galeopsis Dioscoridis. *Baubin. pin.* 230. *Lamium rubrum.* *Gerard emac.* 703. *Parkinson.* 604. *Raii. Synopsis* Small Dead Nettle or red Archangel 240. *Hudson. Fl. Angl.* 225. *Oeder. Fl. Dan. icon.* 523.

RADIX annua, fibrosa.

CAULES plures, ad basin debiles, et ramosi, prope summitatem fere nudi, et sæpe colorati, semipedales, quadrangulares, fistulosi, scabiusculi.

FOLIA opposita, venosa, hirsutula, inferiora subrotundo-cordata, crenata, longe petiolata: superiora ovato-cordata, obtuse serrata, petiolis brevibus infidentia, alterne opposita, reflexa, dense et imbricatim congesta, et rubedine tincta.

FLORES purpurei, in summis caulibus verticillatim densius stipati. Verticilli multiflori.

CALYX: PERIANTHIUM monophyllum, tubulatum, superne patentius, quinquedentatum, substriatum, hirsutulum, dentibus subæqualibus, acuminatis. *fig.* 1.

COROLLA monopetala, ringens, pallide purpurea, *fig.* 2; TUBUS brevis, cylindraceus, *fig.* 6; FAUX inflata, margine utroque bidentata, *fig.* 4; denticulo superiori spinæ simili, inferiore obtusiore, maculâ notata; labium superius, *fig.* 3, ovatum, concavum, villosulum, integrum, labium inferius bilobum, maculatum, lobis patentibus. *fig.* 5.

STAMINA: FILAMENTA quatuor, subulata, alba, sub labio superiori tecta, quorum duo longiora, *fig.* 7; ANTHERÆ oblongæ, barbatae, polline croceo repletæ. *fig.* 8.

PISTILLUM: GERMEN quadrifidum; STYLUS filiformis, longitudine et situ staminum; STIGMA bifidum, acutum, *fig.* 9, 10, 11.

SEMINA 4 in fundo calycis, pallida, triangularia, apice truncata, marginata, *fig.* 12.

ROOT annual and fibrous.

STALKS several, at bottom weak and branched, near the top almost naked, and frequently coloured, six inches or more in height, quadrangular, hollow, and slightly rough.

LEAVES opposite, veiny, slightly hairy, the lower ones of a roundish-heart shaped form, notched, and placed on footstalks, the uppermost ones oval-heart-shaped, obtusely serrated, with short footstalks, alternately opposite, growing thickly together, bent back and laying one over another, of a reddish colour.

FLOWERS purple, growing thickly together on the tops of the stalks in whirls; many flowers in each whirl.

CALYX: a PERIANTHIUM of one leaf, tubular, at top spreading, with five teeth, somewhat striated and hairy, the teeth nearly equal and long pointed. *fig.* 1.

COROLLA monopetalous, gaping, of a pale purple colour, *fig.* 2; the TUBE short and cylindrical, *fig.* 6; the ENTRANCE OF THE TUBE inflated, the margin on each side furnished with two teeth, *fig.* 4; the uppermost pointed like a thorn, the lowermost blunter with a spot on it; the upper lip *fig.* 3; oval, hollow, slightly villous, entire, the under lip divided into two lobes, spreading a little from one another, and spotted, *fig.* 5.

STAMINA: four FILAMENTS, tapering and white, hid under the upper lip, two of which are longer than the rest *fig.* 7; the ANTHERÆ oblong, bearded, and full of a yellow pollen *fig.* 8.

PISTILLUM: GERMEN quadrifid; STYLUS filiform, the length of the Stamina; STIGMA bifid and pointed *fig.* 9, 10, 11.

SEEDS 4 in the bottom of the Calyx, of a pale brown, triangular, cut off as it were at top, with a margin round them, *fig.* 12.

Although this plant may perhaps with propriety be considered as a Weed in Gardens, yet the bright colour of its tops and flowers, joined to its early appearance, contributes not a little to ornament our banks in the Spring, when few other plants appear in blossom.

The Flowers are most commonly of a bright red colour, sometimes white, and are much resorted to by Bees of various kinds.

The Leaves and Flowers are those parts of the plant, which are used in Medicine, although in the present practice they are scarce regarded.

According to LINNÆUS it is boiled in *Upland*, a Province of *Sweden*, as a pot herb. A Variety of this plant occurs not unfrequently about Town, which has its leaves more deeply indented. RAY calls it *Lamium rubrum minus, foliis profunde incis.* I have found it growing on a bank on the right hand side of the way between *Pimlico* and *Chelfea*.





*Lamium purpureum.*











*Thymus acinos.*

THYMUS ACINOS. BASIL THYME.

THYMUS *Linnaei Gen. Pl.* DIDYNAMIA GYMNOSPERMIA.

*Calycis bilabiati faux villis clausa.*

*Raii Synop. Gen.* 14. SUFFRUTICES ET HERBÆ VERTICILLATÆ.

THYMUS *Acinos* caulibus adscendentibus, foliis dentato-ferratis, calycibus basi ventricosis.

THYMUS *Acinos* floribus verticillatis, pedunculis unifloris caulibus erectis subramosis, foliis acutis, ferratis. *Linn. Syst. Vegetab.* p. 452. *Flor. Suecic.* p. 209.

CLINOPODIUM foliis ovatis acutis ferratis, flore foliis brevior. *Haller. hist. helv.* n. 237.

THYMUS *Acinos.* *Scopoli Fl. Carniol.* p. 426. n. 735.

CLINOPODIUM arvense ocimi facie. *Baubin. pin.* p. 225.

CLINOPODIUM minus five vulgare. *Parkinson.* 21.

OCYMUM fylvestre. *Gerard. emac.* 675.

ACINOS multis. *Baubin. hist.* 32. 259. *Raii Syn.* p. 238. Wild Basil. *Hudson Fl. Angl.* p. 230.

RADIX annua, simplex, fibrosa.	ROOT annual, simple and fibrous.
CAULES adscendentes, femipedales, tetragoni, ramosi, hirsuti, purpurascens; RAMI cauli similes longi, patentes, imi oppositi.	STALKS ascending, about six inches high, square, branched, hirsute, purplish; BRANCHES like the stalk, long, spreading, the bottom ones opposite.
FOLIA opposita, petiolata, ovato-acuta, medium interius petiolo proximum integrum, exterius mucroni proximum dentatum, margines paululum reflexi, ciliati, nervo medio venisque subtus hirsutis, superne vix hirsuta, impunctata, venis quam in serpyllo profundius exaratis.	LEAVES opposite, standing on foot-stalks, of a pointed oval shape, the inner middle part of them next the foot-stalks entire, the outer middle part next the point indented, the edges turned a little back and ciliated, the midrib and veins on the under side of the leaf hirsute, the upper surface of the leaves scarcely hairy, without any dots, the veins deeper than in the common Wild Thyme.
FLORES pedunculati, verticillati, spicati, plerumque sex in singulo verticillo.	FLOWERS growing on foot-stalks, in whirls, forming a spike, generally six in each whirl.
CALYX: PERIANTHIUM monophyllum, tubulatum, basi ventricosum, striatum, hirsutum, quinque-dentatum, dentibus tribus superioribus brevioribus, reflexis, inferioribus setaceis, fauce villis clauso, fig. 1.	CALYX: a PERIANTHIUM of one leaf, tubular, bellying out at bottom, striated, hirsute, having five teeth, the three uppermost of which are shortest and turned back, the lower ones slender and tapering, the mouth closed up with short hairs, fig. 1.
COROLLA monopetala, tubulosa, purpurea, bilabiata, labium superius brevius, obtusum, reflexum, emarginatum, inferius trifidum, laciniis subrotundis, medio productiore subemarginato, macula alba, lunulata, prominente, notata, fig. 3, 4, 5.	COROLLA monopetalous, tubular, purple, having two lips, the uppermost of which is shortest, blunt, turned back, with a slight notch in it; the lowermost divided into three roundish segments, the middle one of which is longer than the others, very slightly notched in, and marked with a raised white semilunar spot, fig. 3, 4, 5.
STAMINA: FILAMENTA quatuor, quorum duo longiora, Corollâ breviora; ANTHERÆ parvæ, rubræ, fig. 6.	STAMINA: four FILAMENTS, two long and two short, within the Corolla; ANTHERÆ small and red, fig. 6.
PISTILLUM: GERMEN quadripartitum; STYLUS filiformis longitudine Staminum; STIGMA bifidum, acutum, fig. 7.	PISTILLUM: GERMEN divided into four parts; STYLE filiform, the length of the Stamina; STIGMA bifid and acute, fig. 7.
PERICARPIUM nullum	SEED-VESSEL none.
SEMINA quatuor oblonga intra Calycem, fig. 8, 9.	SEEDS. Four oblong seeds within the Calyx, fig. 8, 9.

As there are only two species of *Thyme* growing wild in this Kingdom, and those very different from each other, the young Botanist cannot be at a loss in distinguishing them; with the *Thymus alpinus*, (figured by that accurate Botanist JACQUIN, in his *Fl. Austriac*, who has contributed much to the advancement of botanic knowledge,) this plant has a much greater affinity, but may be distinguished by attending to the size of the flowers and the shape of the Calyx: the flowers of the *alpinus* are nearly twice as large as those of the *acinus*, and the Calyx of the latter has a protuberance at its base which we do not find either in the *alpinus* or *serpyllum*; a white circular mark in the mouth of the flowers, makes the blossoms of this species strikingly different from those of Wild Thyme.

The most common place of growth for this plant is in uncultivated fields, particularly where the soil is chalky, about *Charlton* it is found in abundance, flowering in July and August.

A variety with a white flower sometimes occurs.

The same agreeable aromatic flavour predominates in this species as in the Wild Thyme, whence it is probable that their virtues are very similar.











*Euphrasia Odontites.*

*Flora Ital.*

# EUPHRASIA ODONTITES. RED EYE-BRIGHT.

EUPHRASIA *Linnaei Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

*Raii Syn. Gen.* HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

EUPHRASIA *Odontites* foliis linearibus: omnibus ferratis. *Linnaei Syst. Vegetab. Sp. Pl.* p. 841. *Fl. Suecic.* p. 213. n. 544.

ODONTITES bractæis ferratis hirsutis. *Haller. hist. v. 1.* p. 134. n. 304.

EUPHRASIA *Odontites.* *Scopoli Fl. Carniol.* p. 435.

EUPHRASIA pratenfis rubra. *Baubin Pin.* p. 234.

EUPHRASIA pratenfis rubra major. *Parkinson* 1329.

CRATÆOGONON Euphrosyne. *Ger. emac.* 91. *Raii Syn.* p.\* 284. Eye-bright Cow-wheat. *Hudson Fl. Angl.* p. 234.

RADIX annua, simplex, fibrosa, lignea.	ROOT annual, simple, fibrous, and woody.
CAULIS erectus, ramosissimus, semipedalis, ad bipedalem, hirsutus, obtuse quadrangularis.	STALK upright, very much branched, from six inches to two feet high, hirsute, and obtusely square.
RAMI cauli fimiles, oppositi.	BRANCHES like the stalk and opposite.
FOLIA alterne opposita, sessilia, lineari-lanceolata, reflexa, rariter dentata, hirsutula, venosa, venis parvis, subtus hirsutis.	LEAVES alternately opposite, sessile, betwixt linear and lanceolate, turning back, thinly indented, slightly hirsute, veiny, veins few and hirsute underneath.
BRACTEÆ lanceolatae, suberectae, purpurascentes.	BRACTEÆ lanceolate, nearly upright, purplish.
FLORES spicati, secundi, spicis apice subnutantibus,	FLOWERS growing in spikes of a red colour, inclined all one way, the spikes nodding a little at top.
CALYX: PERIANTHIUM monophyllum, tubulosum, quadridentatum, hirsutum, dentibus aequalibus, acutis, fig. 1.	CALYX: a PERIANTHIUM of one leaf, tubular, quadridentate, hirsute, the teeth equal and sharp, fig. 1.
COROLLA monopetala, ringens, labium superius concavum, submarginatum, inferius tripartitum, laciniis obtusis, aequalibus, fig. 2.	COROLLA monopetalous, gaping, the upper lip concave and slightly notched in; the lower lip divided into three, obtuse, equal segments, fig. 2.
STAMINA: FILAMENTA quatuor, quorum duo paulo breviora, alba; ANTHERÆ bilobæ, biloculares, apice filamentosæ, basi spinulis duabus terminatæ, deorsum ubi filamentum inferitur appendiculis clavatis pluribus instructæ, fig. 3, 4, 5.	STAMINA: four FILAMENTS, two somewhat longest, white; ANTHERÆ composed of two lobes and two cavities, at top thready, at bottom terminated by two little spines, and on the back part where the filament is inserted, furnished with several small club-shaped threads or appendages, fig. 3, 4, 5.
PISTILLUM: GERMEN ovatum, hirsutulum; STYLUS filiformis, in flore nondum explicato sub labio superiore Corollæ involutus, postea Corollâ longior; STIGMA capitatum, fig. 6.	PISTILLUM: GERMEN oval, hirsute; STYLE filiform, before the flower opens bent in underneath the upper lip of the Corolla; afterwards longer than the Corolla; STIGMATA forming a little head, fig. 6.
PERICARPIUM: CAPSULA ovato-oblonga, compressa, bilocularis, fig. 7.	SEED-VESSEL an oval, oblong, flattish CAPSULE, of two cavities, fig. 7.
SEMINA plurima, albida, striata, fig. 8.	SEEDS several, whitish and striated, fig. 8.

This species of *Eyebright*, which is exceedingly different from the common sort, grows very common in Pastures, sometimes in Corn-fields, and flowers in July and August: it differs very much in size according to the place it grows in, and is now and then found with white flowers.

It is not remarked either for its beauty or utility.









# ANTIRRHINUM CYMBALARIA. IVY-LEAV'D ANTIRRHINUM.

ANTIRRHINUM *Linnaei Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

*Raii Syn.* HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM *Cymbalaria foliis cordatis quinquelobis alternis, caulibus procumbentibus. Linnaei*

*Syst. Vegetab. p. 464. Sp. Pl. p. 851.*

ANTIRRHINUM caule repente, foliis reniformibus, quinquelobatis. *Haller hist. p. 146. n. 339.*

ANTIRRHINUM *Cymbalaria Scopoli Fl. Carniol. n. 770.*

CYMBALARIA *Baubin pin. 306.*

LINARIA *hederaceo folio glabro, seu Cymbalaria vulgaris. Tourn. 169. Garidel. 287. Gouan. Fl. Monsp. p. 100. Gerard Fl. Galloprov. p. 292. Raii Syn. p. \*282. Hudson Fl. Angl. p. 237.*

Tota Planta glabra, cum odore ingrato.

RADIX perennis, fibrosa, intra fissuras murorum penetrans; eradicatione difficilis.

CAULES plures, confertim nascuntur, basi repentes, procumbentes, ramosi, teretes, glabri, purpurascens, nervo intus duriore et tenaciore sicut in Alfine.

FOLIA quinquelobata, glabra, subcarnosa, opposita, aut alterna, sæpe purpurascens, fig. 12.

PETIOLI longi, superne fulcati.

PEDUNCULI teretes, petiolis paulo longiores.

CALYX: PERIANTHIUM quinquepartitum, laciniis lanceolatis, persistentibus, fig. 1.

COROLLA monopetala, ringens; TUBUS brevis, fig. 6; LIMBUS bilabiatus, labium superius bifidum, reflexum, purpureum, venis duabus saturatioribus striatum, fig. 2. inferius trifidum, laciniis subrotundis, albidis, fig. 3; PALATUM prominens, bifidum, flavum, fig. 5, FAUX villosum, croceum.

NEECTARIUM purpureum, conicum, longitudine calycis, fig. 5.

STAMINA: FILAMENTA quatuor, duo breviora; ANTHERÆ bilobæ, albæ, conniventes, fig. 7.

PISTILLUM: GERMEN subrotundum, purpureum; STYLUS filiformis; STIGMA obtusum, fig. 8.

PERICARPIUM CAPSULA subrotunda, rugosa, seminibus protuberantibus, bivalvis, valvis apice in plures lacinias dehiscentibus, fig. 9, 10.

SEMINA nigra, subrotunda, rugosa, fig. 10.

The whole plant smooth, with a disagreeable smell.

ROOT perennial, fibrous, penetrating between the crevices of the walls, and scarce to be eradicated.

STALKS numerous, growing in a kind of tuft, creeping at bottom, procumbent, branched, round, smooth, purplish, and stringy as in Chickweed.

LEAVES quinquelobate, smooth, somewhat fleshy, some of them opposite, others alternate, frequently purplish, fig. 12.

FOOT-STALKS of the leaves long, on the upper part grooved.

FOOT-STALKS of the flowers, round, a little longer than the foot-stalks of the leaves.

CALYX: a PERIANTHIUM divided into five segments, which are lanceolate and continuing, fig. 1.

COROLLA monopetalous, ringent; the TUBE short, fig. 6: the LIMB divided into two lips; the upper lip bifid, turning back, and purple, striped with two veins of a deeper colour, fig. 2; the lower lip trifid, the segments round and whitish, fig. 3; the PALATE prominent, bifid, and yellow, fig. 4; the MOUTH or entrance into the tube villous and saffron-coloured.

NECTARY purple, conical, the length of the Calyx, fig. 5.

STAMINA: four FILAMENTS, two short and two long; ANTHERÆ composed of two lobes, white and connivent, fig. 7.

PISTILLUM: GERMEN roundish and purple; STYLE filiform; STIGMA blunt, fig. 8.

SEED-VESSEL a roundish CAPSULE, surface uneven, from the seeds protuberating, of two valves, which open at top into several lacinia, fig. 9, 10.

SEEDS black, roundish and wrinkled, fig. 10.

This Species of *Antirrhinum* is so perfectly distinct from all the others which grow wild in this country, that there is no possibility of mistaking it. It is found in great plenty in all those parts near London, that lay within the reach of the Thames; the seeds are carried by the flux and reflux of the tide up and down the river, and left at high water mark in the crevices of old walls, where they take root and encrease very fast. It is supposed to have been introduced to us from Italy, whether for the purposes of ornament or medicine is uncertain.

The Walls of the *Physic Garden*, at *Chelsea*, from whence it has probably originated in this country, are plentifully covered with it; it may also be found on the *Temple Walls*, and at the sides of the stream running under *Vauxhall Turnpike*.

In some situations the leaves grow much larger than those of the annexed specimen.



*Antirrhinum Cymbalaria.*





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# ANTIRRHINUM ELATINE. SHARP-POINTED FLUELLIN.

ANTIRRHINUM *Lin. Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI, FLORE MONOPETALO IRREGULARI.

ANTIRRHINUM foliis hastatis alternis, caulibus procumbentibus. *Lin. Sp. Pl.* 85.

ANTIRRHINUM caule procumbente, foliis hastatis, imis conjugatis, superioribus alternis. *Haller hist. v. 1. p. 14. 6. n. 340.*

ELATINE folio acuminato, in basi auriculato, flore luteo. *Baubin Pin.* 253.

ELATINE folio acuminato. *Parkinson* 553.

ELATINE altera. *Gerard emac.* 623.

LINARIA *Elatine* dicta, folio acuminato. *Raii Syn.* \*282.

ANTIRRHINUM *Elatine*. *Hudson Fl. Angl. p. 237. Scopoli Fl. Carniol. p. 444. Oeder. Fl. Dan. Ic. 426.*

TOTA PLANTA pilosa.

RADIX fibrosa, annua, albida,

CAULES numerosi, teretes, subramosi, in junioribus plantis suberecti, tandem procumbentes, ad duos pedes et ultra sæpe extensi.

FOLIA petiolata, ima subrotunda, opposita; proxima dentata, alterna; quæ sequuntur magna ex parte hastata.

PEDUNCULI axillares, alterni, penduli, longitudine foliorum.

CALYX: PERIANTHIUM quinquepartitum, persistens, segmentis ovato-lanceolatis acutis, *fig. 1.*

COROLLA monopetala, ringens, flava; TUBUS brevissimus; LIMBUS bilabiatus, labium superius bifidum, segmentis obtusis, inferne purpureis, inferius trifidum, segmentis obtusis, medio productiore, et paulo minore; PALATUM prominulum, flavum, *fig. 2;* NECTARIUM subulatum, flavum, longitudine segmentorum calycis, *fig. 3.*

STAMINA: FILAMENTA quatuor, quorum duo paulo longiora; ANTHERÆ purpureo-fuscae, coalescentes, *fig. 4.*

PISTILLUM: GERMEN subrotundum, compressum, apice villosum; STYLUS filiformis, longitudine staminum, apice incrassatus, uncinatus; STIGMA simplex, *fig. 5, 6, 7.*

PERICARPIUM: CAPSULA rotunda, bilocularis, bivalvis, valvis deciduis, foramine magno in utroque latere capsulae relicto, valvæ orbiculatæ, concavæ, *fig. 8, 9, 10.*

SEMINA nigra, rugosa, 8-10 in singulo loculamento, *fig. 12.*

THE WHOLE PLANT hairy.

ROOT fibrous, annual, whitish.

STALKS numerous, round, a little branched, in the young plants nearly upright, in the old ones trailing on the ground, frequently to the distance of two feet or more.

LEAVES standing on foot-stalks, the bottom leaves roundish and opposite, the next to those are indented and alternate, and those which follow are for the most part hastate.

PEDUNCLES alternate, pendulous, the length of, and proceeding from the Axæ of the leaves.

CALYX: a PERIANTHIUM divided into five segments persisting, the segments lanceolate, *fig. 1.*

COROLLA monopetalous, ringent, and yellow; the TUBE very short; the LIMB divided into two lips, the upper lip bifid, the segments obtuse, and purple underneath; the lower lip trifid, the segments obtuse, the middle one longest and least; the PALATE prominent and yellow, *fig. 2;* the NECTARIUM the length of the segments of the Calyx, small and tapering, *fig. 3.*

STAMINA four FILAMENTS, two of which are a little longer than the others; the ANTHERÆ purplish-brown, adhering together, *fig. 4.*

PISTILLUM: the GERMEN roundish, flattened, at top hairy; the STYLE filiform, the length of the Stamina, thickened at top and hooked; the STIGMA simple, *fig. 5, 6, 7.*

SEED-VESSEL: a round CAPSULE of two cavities and two valves, the valves round and concave, on falling off leaving a large hole in each side of the Capsule, *fig. 8, 9, 10.*

SEEDS black, and wrinkled, from 8 to 10 in each cavity, *fig. 12.*

THIS species of *Antirrhinum* grows generally in Corn-fields, and in some parts of England is much more common than it is with us; in the Corn-fields about *Peckham* I have generally found it in bloom in July, August and September, and even later; it very much resembles the *Antirrhinum spurium* in its general habit, but is readily distinguished by its *pointed leaves*. Some Writers have considered it as possessed of healing properties, and affirm that the expressed juice of the plant, or its distilled water taken inwardly and applied externally, has checked and cured spreading and cancerous Ulcers; and *RAY* relates a Story from *LOBEL* of a poor Barber, who by the above use of this plant, saved his Nose, which had been condemned to be cut off by several eminent Physicians and Surgeons.



*Antirrhinum Elatine.*



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# ANTIRRHINUM LINARIA. COMMON YELLOW TOAD FLAX.

ANTIRRHINUM *Linnaei Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

ANTIRRHINUM *Linaria* foliis lanceolato-linearibus confertis, caule erecto, spicis terminalibus seffilibus, floribus imbricatis. *Linn. Syst. Vegetab.* p. 466. *Fl. Suecic.* 217.

ANTIRRHINUM foliis linearibus adscendentibus congestis, caule erecto spicato. *Haller. hist. V. 1. p.* 145.

LINARIA vulgaris lutea flore majore. *Baubin pin. p.* 212.

LINARIA lutea vulgaris. *Gerard emac.* 550. vulgaris nostras. *Parkinson* 458. *Raii Syn. p.* \*281. *Hudson Fl. Angl. p.* 238. *Scopoli Fl. Carniol. p.* 442:

RADIX perennis, alba, dura, lignosa, per terram rep-  
tando immensum se propagans.

CAULES plerumque plures ex eadem radice, erecti,  
pedales aut cubitales, foliosissimi, teretes, laeves.

FOLIA linearia, acuta, conferta, sparsa, glauca.

FLORES lutei, palato croceo, in fummis caulibus in  
spicas densas imbricatum congesti.

CALYX: PERIANTHIUM quinquepartitum, breve, per-  
sistens, laciniis ovato-lanceolatis, superiore cæte-  
ris paulo longiore, duabus inferioribus magis  
dehiscentibus, *fig. 1.*

COROLLA monopetala ringens, lutea, *fig. 3.* TUBUS  
brevis; LIMBUS bilabiatus, *fig. 4.* LABIUM  
superius bifidum, laciniis primum deflexis, postea  
reflexis conniventibus, *fig. 5;* LABIUM inferius  
trifidum, laciniis obtusis, intermedio brevior  
minore, *fig. 6;* FAUX clausa PALATO pro-  
minente, bifido, croceo, ad basin villosa, *fig. 7.*

STAMINA: FILAMENTA quatuor, alba, sub labio su-  
periori inclusa, quorum duo breviora, ad basin  
villosa, *fig. 9;* ANTHERÆ flavæ, conniventes,  
*fig. 10.*

PISTILLUM: GERMEN subrotundum, STYLUS filifor-  
mis, albus; STIGMA obtusum.

PERICARPIUM: CAPSULA ovato-cylindracea, bilocu-  
laris, apice in plures lacinias dehiscens, *fig. 14,*  
*15, 16.*

SEMINA numerosa, nigra, plana, medio extuberantia,  
*fig. 17.*

ROOT perennial, white, hard and woody, creeping  
under the earth, and propagating itself very  
much.

STALKS: generally several arise from the same root,  
upright, from one to two feet high, very full  
of leaves, round and smooth.

LEAVES linear, pointed, growing very thick together  
on the stalk without any regular order, smooth,  
and of a blueish colour.

FLOWERS yellow, with the palate of an orange or  
saffron colour, placed one over another in thick  
spikes on the top of the Stalks.

CALYX: a PERIANTHIUM divided into five segments  
short and continuing, the segments oval and  
pointed, the upper one a little longer than the  
rest, the two inferior ones gaping widest, *fig. 1.*

COROLLA monopetalous, ringent, and yellow, *fig. 3;*  
the TUBE short; the LIMB composed of two  
LIPS, *fig. 4;* the upper LIP bifid, the segments  
first bending down, afterwards turned back and  
closing together, *fig. 5;* the lower LIP trifid,  
the segments obtuse, the middle one shortest  
and least, *fig. 6;* the MOUTH closed by a PA-  
LATE prominent, bifid, of a saffron colour,  
and villous at bottom, *fig. 7.*

STAMINA: four white FILAMENTS, inclosed under  
the upper lip of the Corolla, two of which are  
shorter than the other two, at bottom villous,  
*fig. 9;* ANTHERÆ yellow, slightly connected  
together, *fig. 10.*

PISTILLUM: GERMEN roundish, STYLE filiform and  
white; STIGMATA obtuse.

SEED-VESSEL a CAPSULE of an oval and cylindrical  
shape, having two cavities, and splitting at top  
into several divisions, *fig. 14, 15, 16.*

SEEDS numerous, black, flat, protuberant in the mid-  
dle, *fig. 17.*

Mr. Ray in his *Historia Plantarum* has collected the Authorities of several writers who speak highly of the medical virtues of this Plant. At the same time that we by no means believe in all the Virtues which are attributed to many plants by the old Authors, we would be carefull of rejecting all their accounts, particularly when there is some reason to think they may be founded in Truth, the mention of them may at least serve to excite such of the Faculty as have proper opportunities to give them a fair trial, and either reject them entirely, or bring them more generally into practice.

According to some it operates both by Stool and Urine, and so much by the latter, as to acquire among the Germans the name of *Harnkrout*. A small Glass of the distilled Water mixed with a drachm of the bark of the *Ebulus* or *Water Elder* in powder, powerfully provokes Urine, and is recommended in Dropical Cafes. The distilled water or juice of the Plant put in the Eyes, takes away the redness and inflammation of them, as TRACUS asserts from his own long observation and experience. Made into an Ointment with lard and mixed with the yolk of Egg, it takes away the violent pain arising from the Piles.

The flowers of this plant are frequently found double with two or more Spurs, and a singular variety of it which LINNÆUS calls *Peloria*, is said by Mr. HUDSON to grow about *Clapham* in Surry, this rare monstrosity we shall not fail to figure.

In its common state, the Toad Flax grows very common on banks by the road sides, which it decorates not a little by its singular and beautiful Flowers. It may with the greatest ease be cultivated in Gardens, and raised either from Seeds or Roots; the Seed is ripe at the latter end of September.





*Antirrhinum Linaria.*









# DIGITALIS PURPUREA. FOX-GLOVE.

DIGITALIS *Linnaei Gen. Pl.* DIDYNAMIA ANGIOSPERMIA.

*Cal.* 5-partitus. *Cor.* campanulata 5-fida, ventricosa. *Caps.* ovata bilocularis.

*Raii Syn. Gen.* 18. HERBÆ FRUCTU SICCO SINGULARI FLORE MONOPETALO.

DIGITALIS *purpurea* calycinis foliolis ovatis acutis, corollis obtusis : labio superiore integro. *Linnaei Syst. Vegetab.* p. 570. *Sp. Pl.* p. 866.

DIGITALIS foliis calycinis ovatis, galea simplici. *Haller. Hist.* p. 143. n. 330.

DIGITALIS *purpurea.* *Scopoli Fl. Carniol.* p. 447. n. 780.

DIGITALIS *purpurea* folio aspero. p. 243.

DIGITALIS *purpurea.* *Gerard. emac.* 790.

DIGITALIS *purpurea vulgaris.* *Parkinson 1653. Raii. Syn.* p.\* 283. Purple Fox-glove. *Hudson Fl. Angl.* p. 240. *Oeder Fl. Dan Icon.* 774.

RADIX biennis, fibrosa.

CAULIS tripedalis ad orgyalem, simplex, erectus, foliosus, teres, pubescens.

FOLIA ovato-acuta, serrata, venosa, subtus albida, pubescentia; PETIOLI breves, alati.

FLORES spicati, nutantes, imbricati, secundi.

PEDUNCULI uniflori, pubescentes, apice incrassati, peracta florescentia suberecti.

CALYX: PERIANTHIUM quinquepartitum, laciniis ovato-acuminatis, nervosis, supremâ angustiore, fig. 1.

COROLLA monopetala, subcampanulata, purpurea, interne ocellata; TUBUS magnus, patens, deorsum ventricosus, basi cylindracea, arcata; LIMBUS parvus, quadrifidus, laciniâ superiore integra, quasi truncata, inferiore majore, inflexa.

STAMINA: FILAMENTA quatuor basi Corollæ inserta, alba, apice paululum latiora, basi infraacta, quorum duo longiora; ANTHERÆ primum magnæ, turgidæ, ovatæ, basi coadunatæ, lutescentes, et sæpe maculatæ; demum et formâ et situ mire mutantur, fig. 2, 3, 4.

PISTILLUM: GERMEN subconicum, luteo-virens; STYLUS simplex; STIGMA bifidum, fig. 5, 6, 7.

NECTARIUM GLANDULA basin Germinis cingens, fig. 8.

PERICARPium: CAPSULA ovato-acuminata, bilocularis, bivalvis, valvulâ inferiore findente, fig. 9.

SEMINA plurima, nigricantia, parva, utraque extremitate truncata, fig. 10.

ROOT biennial and fibrous.

STALK from three to six feet high, simple, upright, leafy, round, and pubescent or downy.

LEAVES of a pointed oval shape, serrated, veiny, underneath whitish and pubescent; the FOOT-STALKS short and winged.

FLOWERS growing in a spike, pendulous, laying one over another all one way.

PEDUNCLES sustaining one flower, pubescent, thickest at top, after the flower drops off, becoming nearly upright.

CALYX: a PERIANTHIUM divided into five segments, which are of an oval pointed shape, and nervous, the uppermost narrower than the rest, fig. 1.

COROLLA monopetalous, somewhat bell-shaped, purple, and marked in the inside with little eyes; the TUBE large, spreading, bulging out backwards; the base cylindrical, and as if it had been tied with a ligature; the LIMB small and quadrifid, the upper segment entire and as if cut off, the lower segment larger and bent in.

STAMINA: four FILAMENTS inserted into the bottom of the Corolla, white, a little broadest at top, crooked at bottom, two long and two short; ANTHERÆ at first large, turgid, oval, touching at bottom, of a yellowish colour and often spotted; lastly changing both their form and situation in a singular manner, fig. 2, 3, 4.

PISTILLUM: GERMEN rather conical, of a yellow green colour; STYLE simple; STIGMA bifid, fig. 5, 6, 7.

NECTARY a GLAND surrounding the bottom of the Germen, fig. 8.

SEED-VESSEL: a pointed oval CAPSULE, of two cavities and two valves, the lowermost valve splitting in two, fig. 9.

SEEDS numerous, blackish, small, as if cut off at each end, fig. 10.

Was it not that we are too apt to treat with neglect the beautiful plants of our own country, merely because they are common and easily obtained, the stately and elegant *Fox-glove* would much oftener be the pride of our gardens than it is at present; for it is not only peculiarly striking at a distance, but its flowers and their several parts become beautiful in proportion to the nearness of our view: How singularly and how regularly do the blossoms hang one-over another! How delicate are the little spots which ornament the inside of the flower! and like the wings of some of our small Butterflies smile at every attempt of the Painter to do them justice: how pleasing is it to behold the nestling Bee hide itself in its pendulous blossoms! while extracting its sweets which furnish our tables with honey, and our manufacturers with wax: nor are the more interior parts of the flower less worthy of our admiration, or less adapted to the improvement of the young Botanist: here all the parts of the fructification being large, he will readily obtain a distinct idea of them; but more particularly of the form of the Antheræ, and the alteration which takes place in them, previous to and after the discharge of the Pollen. *vid. fig. 3, 4.*

The flowers of this plant are in general of a fine purple colour, and like all other purple flowers are liable to variations; sometimes we find the blossoms of a milk white or cream colour, and some other varieties of it are mentioned by RAY, but the white is the most common. Such as would wish to cultivate it, may raise it either from seed, which is very small for the size of the plant, or from young plants. It grows naturally in a dry and gravelly soil, and in such situations is common enough over most parts of England; about *Charlton-Wood* it is very plentiful, and flowers in July and August.

According to the testimony of many writers, the juice or decoction of this plant taken inwardly, acts as an emetic and purgative, and that too with considerable violence; hence Mr. RAY very properly advises it to be given to such only as have robust constitutions. PARKINSON affirms that it is very efficacious in the cure of the Epilepsy; but he unites with it in his prescription *Polypody of the Oak*, so that there is no knowing to which of the plants the merit of curing this stubborn disease is due.

The flowers or herb either bruised or made into an ointment, are strongly recommended in Schrophulous tumours and ulcers; and so great an opinion have the Italians of its virtues as a vulnerary, that they have the following proverb concerning it. "*Aralda tutte le piaghe salda.*" Fox-glove cures all wounds. *Raii Hist. Plant.*





*Digitalis purpurea.*









# DRABA VERNA. VERNAL DRABA OR WHITLOW GRASS.

DRABA *Linnaei Gen. Pl. TETRADYNAMIA SILICULOSA.*

*Raii Synop. Gen. 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.*

DRABA *verna* scapis nudis, foliis subferratis. *Linnaei Syst. Vegetab. p. 489. Flor. Suec. p. 223.*

DRABA *cauliculis nudis, foliis subhirsutis, subdentatis. Haller. hist. helv. 1. 215.*

BURSA PASTORIS *minor loculo oblongo. Bauhin. pin. 108. 2.*

PARONYCHIA *vulgaris. Gerard emac. 624. Raii Syn. 292. Hudson Fl. Angl. 243. Scopoli Flor. Carniol. n. 792.*

RADIX	fibrosa, annua.	ROOT	fibrous and annual.
CAULES	nudi, palmares, 1 ad 5 aut plures in folo fertili ex eadem radice nascuntur.	STALKS	naked, about three inches high, one to five and frequently more, if the soil be rich, spring from the same root.
FOLIA	ovato-lanceolata, basi angustiora integra et subferrata, (ferra nisi unica aut duo, raro plures) super terram expansa, scabriuscula, hirsuta, pili bi-trifurci.	LEAVES	of an oval pointed shape, narrower at bottom, some of them entire, and others a little serrated, or indented, (seldom more than one or two indentations in a leaf,) spreading on the ground, roughish, hirsute, some of the hairs bifurcate, others trifurcate.
PEDUNCULI	alterni, uniflori.	PEDUNCLES	alternate, uniflorous.
CALYX:	PERIANTHIUM tetraphyllum, foliolis erectis, concavis, gibbis, obtusis, subhirsutis. <i>fig. 1.</i>	CALYX:	a PERIANTHIUM of four leaves, which are upright, hollow, gibbous, obtuse, and somewhat hairy, <i>fig. 1.</i>
COROLLA	tetrapetala, petala alba, calyce duplo longiora, bipartita. <i>fig. 2.</i>	COROLLA	tetrapetalous, the PETALS white, twice the length of the Calyx, and bipartite, <i>fig. 2.</i>
STAMINA:	FILAMENTA sex incurvata, quorum 4 longitudine Pistilli 2 breviora; ANTHERÆ flavæ. <i>fig. 3. 4.</i>	STAMINA:	six FILAMENTS which bend inward, 4 long the height of the Pistillum, and 2 short; the ANTHERÆ yellow, <i>fig. 3. 4.</i>
PISTILLUM:	GERMEN ovatum, compressum; STYLUS vix ullus; STIGMA capitatum, planum. <i>fig. 5.</i>	PISTILLUM:	The GERMEN oval and flat; STYLE scarce any; STIGMA a small head flat at top.
PERICARPIUM:	SILICULA ovata, compressa, brevi mucrone obtuso terminata, bilocularis, bivalvis, valvulis plano-concavis. <i>fig. 6.</i>	SEED-VESSEL	a short oval pod, flat, and terminated by a short blunt point, having two Cavities and two Valves, the Valves slightly concave, <i>fig. 6.</i>
SEMINA	plura, ovata, fusca, margini DISSEPIMENTI affixa. <i>fig. 8. 9.</i>	SEEDS	several, oval, brown, fixed to the edge of the DISSEPIMENT or Partition, <i>fig. 8. 9.</i>

ON Walls, dry Banks, and in barren Fields, the white blossoms of this diminutive plant, are very conspicuous in the months of March and April, a season when any kind of blossom is viewed with pleasure, as it cannot fail to excite the pleasing reflection that the season is approaching when

“ All that is sweet to smell, all that can charm  
Or eye or ear, bursts forth on every side  
And crouds upon the senses.”

Linnaeus informs us that in Smoland a Province of Sweden, they sow their Rye when this plant is in blossom, and that in the night time and in wet weather its flowers droop.

Galen says that *Paronychia* or *Whitlow Grass* has its name from its properties, for it heals Whitlows; but Commentators are much in doubt concerning the plant itself. From the account of the Antients, it appears that it is a different plant from what we are now describing; some have fixed on Wall Rue, (*Asplenium Ruta muraria*,) others on a plant resembling Spurge, such is the confusion that arises from imperfect descriptions.



*Draba verna.*











*Thlaspi Bursa-Pastoris.*



# THLASPI BURSA PASTORIS. SHEPHERD'S PURSE.

THLASPI *Linnaei Gen. Pl.* TETRADYNAMIA SILICULOSA.

*Silicula* emarginata, obcordata, polysperma: valvulis navicularibus, marginato-carinatis.

*Raii Syn. Gen* 21. HERBÆ TETRAPETALÆ SILIQUOSÆ ET SILICULOSÆ.

THLASPI *Bursa pastoris* filiculis obcordatis, foliis radicalibus pinnatifidis. *Linnaei Syst. Vegetab.* p. 491.

*Spec. Pl.* 903. *Fl. Suecic.* 227.

NASTURTIIUM filiquis triangularibus, *Haller hist. v. 1. p. 221*

PASTORIA BURSA *Fuschii icon.* 611.

BURSA PASTORIS major folio sinuato. *Baubin Pin.* 108. *Gerard emac.* 276. *Parkinsoni Theat.* 866.

*Raii Syn.* 306. *Hudson. Fl. Angl.* 247. *Scopoli. Fl. Carniol. v. 2. 17.*

RADIX annua, fibrosa, albida.

CAULIS pedalis, erectus, ramosus, teres, subasper.

FOLIA *radicalia* hirsutula, pinnatifida, laciniis quoad formam mire variantibus, *caulina* amplexicaulia, dentata.

PEDUNCULI uniflori, demum fere horizontales.

CALYX: PERIANTHIUM tetraphyllum, foliolis ovatis, concavis, subpilosis, margine membranaceis, *fig. 1.*

COROLLA: PETALA quatuor alba, calyce paulo longiora, apice rotundata, *fig. 2.*

STAMINA: FILAMENTA sex, alba, quorum quatuor longitudine Styli, duo breviora incurvata; AN-  
THERÆ flavæ, *fig. 3.*

PISTILLUM: GERMEN oblongo-cordatum; STYLUS brevissimus; STIGMA villosum, *fig. 4.*

PERICARPIUM: SILICULA lævis, obcordata, bivalvis, *fig. 5.*

SEMINA plurima, pedicellata, flavescentia, margini Dissepimenti affixa, *fig. 6.*

DISSEPIMENTUM utrinque acutum Valvis contrarium.

ROOT annual, fibrous and whitish.

STALK about a foot high, upright, branched, round, a little prickly.

LEAVES: *radical leaves* slightly hirsute, pinnatifid, the laciniæ or jags varying exceedingly in their form; the upper leaves embracing the stalk, and indented at the edges.

PEDUNCLES, supporting one flower on each, nearly horizontal when the flowers are gone off.

CALYX: a PERIANTHIUM of four leaves, the leaves oval, hollow, slightly hairy, and membranous at the edges, *fig. 1.*

COROLLA: four white PETALS, a little longer than the Calyx, round at top, *fig. 2.*

STAMINA: six white FILAMENTS, four of which are of the same length as the Style; two are shorter and bent a little inwards: AN-  
THERÆ yellow, *fig. 3.*

PISTILLUM: GERMEN of an oblong heart-shape; STYLE very short; STIGMA villous, *fig. 4.*

SEED-VESEL; a short smooth pod, triangular or heart-shaped, with two valves, *fig. 6.*

SEEDS numerous, of a yellowish colour, standing on little foot-stalks, which connects them to the edge of the Dissepimentum or Partition, *fig. 6.*

PARTITION pointed at both ends, placed cross-ways to the Valves.

THE radical leaves of this plant differ so exceedingly in their appearance, that the most expert Botanist is often obliged to have recourse to its most striking character, the shape of its Seed-vessels, before he can with certainty distinguish it. When it grows on walls and in dry situations, the leaves are more deeply divided, and the Laciniæ become much narrower; in cultivated ground they are broader and less jagged: It differs likewise no less with respect to its size, sometimes being not more than two or three inches high, and at other times as many feet.

March and April are the months in which it is found most generally in blossom, yet like the *Groundsel* and *Poa annua*, it may be found in this state at almost any time of the year.

It acquires its name of *Shepherd's Pouch* or *Purse*, from the particular shape of its pods, by which it is obviously distinguished from all our other Tetradynamous plants.

The plant is collected and given to small birds, who appear to be very fond of the seeds, and this is the only use to which we at present know of its being applied.









# GERANIUM CICUTARIUM. HEMLOCK-LEAV'D CRANE'S-BILL.

GERANIUM *Linnæi* Gen. Pl. MONADÉLPHIA DECANDRIA.

Monogyna. *Stigmata* quinque. *Fruetus* rostratus, pentacoccus.

*Raii* Synop. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *cicutarium* pedunculis multifloris, floribus pentandris, foliis pinnatis incisfis obtusis, caule ramoso. *Linnæi* Syst. Vegetab. p. 90. Fl. Suecic. p. 243.

GERANIUM petiolis multifloris, caule procumbente, foliis duplicato-pinnatis, pinnulis acute incisfis. *Haller* hist. No. 944.

GERANIUM *cicutæ* folio minus, et supinum. *Baubin* pin. 319.

GERANIUM *cicutæ* folio inodorum album. *Gerard* emac. 945. 946.

GERANIUM *moschatum* inodorum. *Parkinson* 1708. *Raii* Syn. 357. Field Crane's-bill without scent. *Hudson* Fl. Angl. 262.

**RADIX** annua, albida, simplex, carne tenera, cum nervo intus duriore et tenaciore, paucis fibris instructa, crassiuscula, et in terram alte descendens.

**CAULES** ex eadem radice nascuntur plures, crassiusculi, teretes, hirsuti, procumbentes, ramosi, variæ longitudinis pro ratione loci.

**FOLIA** pinnata, pinnis sessilibus pubescentibus, pinnulis acute incisfis.

**STIPULÆ** ad exortum foliorum membranaceæ, albidæ, ovato-acutæ, superiore integra, fig. 1; inferiore in duas divisæ, fig. 2.

**PEDUNCULI** axillares, alterni, hirsuti, multiflori, longitudine foliorum.

**FLORES** umbellati, rosei, a tribus ad sex.

**INVOLUCRUM** membranaceum, multidentatum, fig. 3; **PEDICELLI** basi crassiores, deflexi et demum affurgentes.

**CALYX**: **PERIANTHIUM** pentaphyllum, foliolis ovatis, striatis, hirsutis, concavis, mucronatis, fig. 4.

**COROLLA**: **PETALA** quinque, subovata, plana, subæqualia, rosea, basi hirsuta, calyce longiora, fig. 5.

**STAMINA**: **FILAMENTA** decem, quorum quinque alterna Antheris carent fig. 7: **ANTHERÆ** saturate purpurascens, fig. 6.

**NECTARIA**: *Glandulæ* quinque fuscæ circa basin staminum locantur, fig. 9.

**PISTILLUM**: **GERMEN** quinquangulare, villosum; **STYLUS** subulatus, sulcatus; **STIGMATA** quinque purpurascens, paululum reflexa, fig. 10, 11.

**PERICARPIUM** nullum; **FRUCTUS** pentacoccus, rostratus.

**SEMEN** oblongum, læve, fuscum, arillatum, fig. 14, **ARILLA** hirsuta; **ARISTA** prælonga pilosa instructa quæ demum spiralis evadit, fig. 12, 13.

**ROOT** annual, whitish, simple, tender, the string or nerve in the middle of it hard and tough, furnished with few fibres, large for the size of the plant, and penetrating deep into the earth.

**STALKS**: several usually spring from the same root, thickish, round, hirsute, procumbent and branched, of various lengths according to their place of growth.

**LEAVES** pinnated, the pinnæ sessile and slightly hairy, the pinnulæ sharply indented.

**STIPULÆ** at the base of the leaves membranous, whitish, acutely oval, the uppermost entire, fig. 1; the lowermost generally divided into two, fig. 2.

**FOOT-STALKS** of the flowers springing from the base of the leaves, alternate, hirsute, the length of the leaves, and supporting many flowers.

**FLOWERS** growing in an Umbell, from three to six, of a rose-colour.

**INVOLUCRUM** membranous, with many teeth, fig. 3; the small foot-stalks of the flowers thickest at bottom, turning down, and lastly turning upward.

**CALYX**: a **PERIANTHIUM** of five leaves, the folioli oval, striated, hirsute, concave, and terminating in a fine point, fig. 4.

**COROLLA**: five **PETALS**, somewhat oval, flat, nearly equal, of a rose colour, hairy at bottom, somewhat longer than the Calyx, fig. 5.

**STAMINA**: ten **FILAMENTS**, five of which want the Antheræ, the **ANTHERÆ** of a deep purple colour, fig. 6.

**NECTARIA**: five brown *Glands* placed round the base of the Stamina, fig. 9.

**PISTILLUM**: **GERMEN** quinquangular and villous, **STYLE** tapering and grooved; **STIGMATA** five, of a purple colour, bending a little back, fig. 10, 11.

**SEED-VESSEL** none; **FRUIT** as yet unripe, formed of five protuberating seeds, and terminating in a long beak.

**SEED** oblong, smooth, brown, inclosed within an **ARILLUS** fig. 14, which is hirsute, and furnished with a long hairy **ARISTA**, finally becoming spiral, fig. 12, 13.

We have often had occasion to remark the very great difference in the appearance of plants arising from soil and situation; of this the young Botanist cannot be too well apprised, nor too often informed: from a want of attention to this circumstance, the plant which we have now described, has been divided by different Authors into several species.

It seems worthy of notice, that the alterations which are produced in plants from growing in a richer soil, are chiefly those of encrease of size, and a multiplication of their parts; the minutiae of the fructification suffer but little change in their form by culture, hence they are often most to be depended on, even in ascertaining different species.

When the *Geranium Cicutarium* grows on a dry sandy bank, or wall, as it very frequently does, it is quite diminutive; when it occurs in a moister and more luxuriant soil, the branches extend often a foot or two in length, and the whole plant becomes so altered in its general appearance, as readily to deceive the inexperienced Tyro; but the long pointed fruit which occurs in both, and from whence this plant has obtained the name of *Cranes-bill*, readily points them out to be the same.

The seeds of the *Geraniums* are, in general, enclosed within a membranous *Arillus*, which terminates in an *Arifla* or *Tail*, of different lengths in different species; in some of them, when the seeds are become ripe, they detach themselves from the receptacle, to which they are affixed, with considerable elasticity, and the seeds being loosely contained within the *Arillus* are thrown out to a considerable distance. In the present species, the seeds are more closely invested by the *Arillus*, which does not separate itself with so much force, and as soon as detached, the *Arifla* begins to be twisted up in a spiral form. This may be very distinctly observed if we separate a seed, with its *Arillus*, as soon as ripe, and place it in the palm of the hand, the tail of the *Arillus* immediately appears in motion, as if endued with some sensitive property, and continues uninterruptedly this motion, 'till it has assumed the form of a screw, *vid. fig. 13*. The seed thus furnished with its twisted *Arifla*, is more liable to attach itself to any thing which may come in contact with it, by which means this plant is more universally disseminated.

The *Geranium moschatum* has a great affinity with this species, that plant however has a strong smell of musk, which this entirely wants; and has also many other peculiarities, which we shall not fail to particularize when it comes to be treated of.





*Geranium cicutarium.*





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# GERANIUM ROBERTIANUM. STRONG-SCENTED CRANES-BILL, OR HERB ROBERT.

GERANIUM *Linnæi Gen. Pl.* MONADELPHIA DECANDRIA.

*Stigmata* quinque. *Fructus* rostratus, pentacoccus.

*Raii Syn.* 335. HERBÆ PENTAPETALÆ VASCULIFERÆ.

GERANIUM *robertianum* pedunculis bifloris, calycibus pilosis decemangulatis. *Linnæi Syst. Vegetab.* p.

515. *Fl. Suecic.* 241. n. 619.

GERANIUM foliis duplicato pinnatis, pinnis ultimis confluentibus, calycibus striatis, hirsutis. *Haller hist. n.* 943.

GERANIUM *robertianum.* *Scopoli Fl. Carniol.* n. 845. *Hudson Fl. Angl.* p. 264.

GERANIUM *robertianum* primum. *Baubin. Pin.* 319.

GERANIUM *robertianum.* *Gerard. emac.* 939.

GERANIUM *robertianum* vulgare. *Parkinson* 710. *Raii Syn.* p. 358.

RADIX annua, fusca, fibris ramosis prælongis instructa.

CAULES plures, diffusi, ramosi, sanguinei ut ut tota planta haud infrequenter, geniculis tumidis, pilosi, præsertim in junioribus plantis.

FOLIA opposita, pilosa, præcipue in umbrosis, unumquodque folium e tribus foliolis pinnatifidis basi confluentibus componitur, foliolo medio longius pedicellato, laciniis spinula rubra terminatis.

STIPULÆ ad singulum geniculum quatuor, utrinque binæ.

PEDUNCULI biflori.

CALYX: PERIANTHIUM decemangulatum, persistens, foliolis ovato-lanceolatis, nervosis, hirsutis, mucronatis, *fig. 1, 2.*

COROLLA: PETALA quinque rosea, patentia, æqualia, lamina subcordata, unguis linearis, medio prominulo fulcato in tres nervos albidos divaricante. *fig. 3.*

STAMINA: FILAMENTA decem fertilia, subulata, plana, alba, basi cohærentia; ANTHERÆ purpurascens, polline flavo repletæ, *fig. 4, auct 5.*

ISTILLUM: GERMEN quinquangulare; STYLUS subulatus, villosus; STIGMATA quinque, rubra, paululum reflexa, *fig. 6.*

SEMINA quinque Arillata, lævia, ovata, fusca ad unum latus compressa, *fig. 9*; ARILLUS rugosus, *fig. 7, 8.*

ROOT annual, brown, furnished with long branched fibres.

STALKS several, spreading, branched, of a blood-red colour, as is frequently the whole plant, (the joints tumid,) hairy, particularly in the young plants.

LEAVES opposite, hairy especially when growing in the shade, each composed of three pinnatifid leaves, uniting at the base, the middle leaf standing on the longest foot-stalk, the laciniæ or jags of the leaf terminated by a small red spine.

STIPULÆ four at each joint, two on each side of it.

PEDUNCLES biflorous.

CALYX: a PERIANTHIUM having ten angles, and continuing, the leaves ovato-lanceolate, nervous, hairy, terminating in a point, *fig. 1, 2.*

COROLLA: five rose-coloured PETALS, spreading and equal, the lamina somewhat heart-shaped, the claw linear, the middle part of it prominent, grooved, and spreading into three whitish nerves.

STAMINA: ten fertile FILAMENTS, tapering, flat, white, connected at bottom; ANTHERÆ purplish, filled with a yellow Pollen, *fig. 4, magnified, fig. 5.*

PISTILLUM: GERMEN having five angles; STYLE tapering, villous; STIGMATA five, red, a little turned back, *fig. 6.*

SEEDS five, contained within an Arillus; smooth, oval, brown, flattened on one side, *fig. 9*; the ARILLUS wrinkled, *fig. 7, 8.*

Although our English *Geraniums* cannot boast that grandeur and variety of splendid colours so conspicuous in many of the foreign ones, yet several of them are sufficiently beautiful to be entitled to a place in the gardens of the curious, particularly the *Bloody Cranes-bill*, (*Geranium Sanguineum*;) the *Crowfoot Cranes-bill*, (*Geranium Pratense*;) the *Perennial Doves-foot Cranes-bill*, (*Geranium Perenne* of *Hudson*;) and the *Herb Robert* which we have now described: the latter of these grows naturally in woods, but more particularly under the hedges which surround woods; it likewise is frequently found in old hollow trees, and not uncommonly on the roofs of houses not much exposed to the sun: it is an annual plant; the seeds sow themselves in Autumn, soon after the young plants come up; flower the ensuing spring, and continue to blossom the whole Summer long, if the plant grows in the shade: towards the latter end of the year, both stalks and leaves become of a deep red or blood colour.

The whole plant has a disagreeable smell when bruised, by which it will be distinguished from our other species. It appears to grow all over Europe, and as a proof of its being still more universal, LINNÆUS mentions its growing in *Arabia felix*.

A variety with a white flower now and then occurs.

If credit may be given to writers on the *Materia Medica*, it is a plant of considerable efficacy in medicine, particularly as an Astringent, hence it is recommended in all kinds of Hemorrhages; and those who have the management of cattle, are said to give them an infusion of this plant when they make bloody urine.—Has not this practice originated from the doctrine of signatures? It is also celebrated as a vulnerary in schrophulous, cancerous and putrid Ulcers, to which either the juice is applied, or the parts fomented with a decoction of the herb; as likewise in Contusions, dissolving the extravasated blood when applied in the form of a Cataplasin; and lastly it is said to be exhibited with good success in the Stone and Gravel.—How far it merits these encomiums future experiments must determine.

The herb bruised and applied to places infested with Bugs, is said by LINNÆUS to drive them away.





*Geranium robertianum.*









# OROBUS TUBEROSUS. WOOD PEA.

OROBUS *Linnei Gen. Pl.* DIADELPHIA DECANDRIA.

*Raii Synop. Gen. 23.* HERBÆ FLORE PAPILIONACEO, SEU LEGUMINOSÆ.

OROBUS *tuberosus* foliis pinnatis, lanceolatis; stipulis semifagittatis integerrimis, caule simplici. *Lin. Syst. Vegetab. p. 550. Fl. Suecic. n. 642.*

OROBUS caule simplici; foliis senis ellipticis; radice tuberosa. *Haller. hist. n. 417.*

ASTRAGALUS fylvaticus, foliis oblongis glabris. *Baubin. pin. 351. Gerard. emac. 1237.*

LATHYRUS sylvestris lignosior. *Parkinson, 1072. Raii Synop. p. 324. Wood-Peafe, or Heath-Peafe. Hudson, Fl. Angl. p. 274. Scopoli. Fl. Carn. n. 883.*

RADIX perennis, tuberosa.

CAULIS simplex, erectus, pedalis, alatus, subtoruosus.

FOLIA pinnata, CIRRHUS brevi recto terminata, Pinnarum paria duo, tria, elliptica, mucronata, glabra subtus cærulefcentia.

STIPULÆ semifagittatæ, sæpe integræ, sæpius vero ad basin hamatæ, dente unico aut pluribus.

RAMI florigeri, 1, 2, 3, aut plures ex foliorum alis, primum nutantes, FLORES pulchelli, ex rubro purpurei, demum cærulefcentes.

CALYX PERIANTHIUM monophyllum, tubulatum, purpureum, basi obtusum; ore quinque-dentato, denticulis tribus inferioribus acutioribus, duobus superioribus brevioribus, obtuse divis, subasfurgentibus, *fig. 1.*

COROLLA *Papilionacea*: VEXILLUM obcordatum, reflexum, *fig. 2.* ALÆ conniventes, Carinâ connexæ, Unguis linearis, *fig. 5.* Lamina obtusa. CARINA, *fig. 7.* acuminata, affurgens, marginibus cavis ad Alas recipiendas, *fig. 9.*

STAMINA: FILAMENTA diadelpia (simplex et novemfidum) adfcententia, *fig. 11, 17.* ANTHERÆ flavæ, *fig. 12.* ad basin filamenti simplicis et superioris, foramina duo observantur, *fig. 16.*

PISTILLUM: GERMEN cylindraceum, compressum, STYLUS filiformis, erectus, lateri interiori prope apicem villosus, *fig. 13.*

PERICARPIUM LEGUMEN teres, longum, primum rubrum, demum nigrum, *fig. 14.*

SEMINA plura, subrotunda, e luteo-fufca, *fig. 15.*

ROOT perennial and tuberous.

STALK simple, upright, about a foot high, winged and somewhat twisted.

LEAVES pinnated, terminated by a short strait CIRRHUS consisting of two or three pair of Pinnæ which are elliptical, and end in a small sharp point, smooth and underneath blueish.

STIPULÆ semifagittate, frequently entire but more often jagged at bottom, with one or several teeth.

BRANCHES which sustain the flowers 1, 2, 3, or more, springing from the bosom of the leaves, at first drooping the FLOWERS beautiful, of a reddish purple colour, becoming blue as they go off.

CALYX: a PERIANTHIUM of one leaf, tubular, purple, blunt at bottom, the mouth quinque-dentate, the three lowermost teeth sharpest, the two uppermost shortest, bluntly divided, and turned a little upwards, *fig. 1.*

COROLLA *Papilionaceous*: the VEXILLUM heart-shaped, turning back, *fig. 2.* the WINGS connivent and connected with the Carina, the Claw linear, *fig. 5.* the Lamina obtuse, *fig. 6.* the CARINA or Keel acuminate, rising upward, the edges hollow for the reception of the Alæ or Wings, *fig. 9.*

STAMINA: ten FILAMENTS, nine united into one body below, and one separate at top, *fig. 11, 17.* rising upward, ANTHERÆ yellow, *fig. 12.* at the base of the simple and uppermost filament two small holes are conspicuous, *fig. 16.*

PISTILLUM: GERMEN cylindrical, and flattish, STYLE thread-shaped, interiorly near the tip villous, *fig. 13.*

SEED-VESSEL, a LEGUMEN round, and long, first red, when ripe black, *fig. 14.*

SEEDS several, roundish, of a yellowish brown colour, *fig. 15.*

This elegant species of Orobus grows very plentifully in all our Woods about Town; it seems to delight in a strong clayey soil. It produces its blossoms in May and June and the seed is ripe in July. The root is large and tuberous, deeply situated in the Earth and taken up with difficulty; it is not made any particular use of with us, but is considerably esteemed in some parts of Great Britain:

My very worthy and ingenious Friend the Rev. Mr. Lightfoot, of Uxbridge, has favoured me with the following account of its uses, which he observed in his late tour through Scotland:

“ The *Orobus tuberosus* is very common in Scotland, both in the Lowlands, Highlands, and the Hebrides. It is called “ in the Erse Language *Cor-meille*. The Highlanders dig up the Roots and dry them in their pockets, and chew “ them like Tobacco or Liquorice Root, to relish their Liquor, and to repel Hunger and Thirst. In *Breadalbane* “ and *Ross-shire* they sometimes steep them in Water, and make an agreeable fermented Liquor with them, which “ they esteem to be good for Disorders of the Thorax. It has a sweetish Taste somewhat like Liquorice Roots. Fond “ as the Highlanders were of this Root they frequently used to change it with me for some Pig-tail Tobacco, their “ favourite Indulgence.”





*Orobus tuberosus*











*Ervum hirsutum.*



# ERVUM HIRSUTUM. ROUGH-PODDED TINE-TARE.

ERVUM *Linnæi Gen. Pl.* DIADELPHIA DECANDRIA. Calyx quinquepartitus, longitudine corollæ.

*Raii Gen. 23.* HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

ERVUM *hirsutum*, pedunculis multifloris, feminibus globosis binis. *Linn. Syst. Vegetab. p. 554. Spec. Plant. 1039. Fl. Suecic. 255.*

VICIA foliis linearibus, filiquis racemosis, dispermis, hirsutis. *Haller hist. helv. n. 422.*

ERVUM *hirsutum. Scopoli Fl. Carniol n. 901. Hudson Fl. Angl. p. 280.*

VICIA segetum cum filiquis plurimis hirsutis. *Baubin. Pin. p. 345.*

VICIA sylvestris seu Cracca minima. *Gerard. emac. 1028.*

ARACHUS five Cracca minor. *Parkinson 1070. Raii Syn. small wild Tare or Tine Tare. Muller. Flor. Dan. icon. 639.*

RADIX annua, tenuis, prælonga, paucis fibrillis instructa.

CAULES pedales, aut bipedales, debiles, ramosi, quadrangulares, tortuosi.

STIPULÆ in plures lacinias tentues divisæ, superiore majore.

FOLIA pinnata, ad octo aut duodecem paria, opposita, aut subalterna, lævia, lanceolata, apice truncata, nervo medio in mucronem educto, capreolo ramoso terminata.

PEDUNCULI longitudine foliorum, multiflori.

FLORES a tribus ad octo, pallide purpurei, racematum, et imbricatum dispositi.

CALYX: PERIANTHIUM quinque-dentatum, persistens, longitudine fere Corollæ, dentibus linearibus, acuminatis, subæqualibus, duobus superioribus more Orobi obtuse divisis, fig. 1.

COROLLA papilionacea; VEXILLUM subrotundum, vix emarginatum, parum reflexum, fig. 2; ALÆ Carinæ adhærentes, ovatæ, obtusæ, ad basin lineares, fig. 3; CARINA alis brevior, fig. 4, interne maculâ purpurea utrinque notata.

STAMINA: FILAMENTA decem affurgentia, supremum brevior cæteris, nec liberum, fig. 5; ANTHERÆ simplices, flavæ.

PISTILLUM: GERMEN oblongum, STYLUS simplex, affurgens, STIGMA obtusum, villosum, fig. 6.

PERICARPIUM: LEGUMEN breve, hirsutum, dispermum, fig. 7.

SEMINA duo, subrotunda.

ROOT annual, slender, long, and furnished with few fibres.

STALKS from one to two feet high, weak, branched, quadrangular and twisted.

STIPULÆ divided into many slender lacinia, of which the uppermost is the largest.

LEAVES pinnated, from eight to twelve pair, opposite, or nearly alternate, smooth, lanceolate, with the top cut off, and the midrib running out to a short point, terminated by a branched tendril.

PEDUNCLES the length of the leaves, and supporting many flowers.

FLOWERS from three to eight, of a pale purple colour, disposed in racemi, and laying one over another.

CALYX: a PERIANTHIUM with five teeth, continuing, almost the length of the Corolla, the teeth linear, and pointed, nearly equal, the two upper ones obtusely divided in the manner of the Orobus, fig. 1.

COROLLA papilionaceous; the VEXILLUM roundish, scarcely nicked in, bending a little back, fig. 2; the WINGS adhering to the Carina, oval, obtuse, at bottom linear, fig. 3; the CARINA shorter than the Wings, fig. 4, marked internally on each side with a purple spot.

STAMINA: ten FILAMENTS which rise upward, the uppermost connected with, and shorter than the others, fig. 5; the ANTHERÆ simple and yellow.

PISTILLUM: GERMEN oblong, STYLE simple and rising upward, STIGMA blunt and villous, fig. 6.

SEED-VESSEL a short hairy LEGUMEN with two seeds, fig. 7.

SEEDS two, and roundish.

This species of Tine-Tare, which at first sight bears so great a resemblance to the *Ervm tetraspermum*, grows like that, too frequently among Corn, to which it is in general more destructive, as being a stronger and more prolific plant. I have in wet seasons seen whole fields of corn overpower'd and wholly destroyed by this plant.

It is easily distinguished from the *Tetraspermum*; in the first place, the leaves are not pointed as in that species, but appear as if cut off at the end, which although a material circumstance is not noticed by MULLER in his figure of it, *vid. Fl. Dan. icon. 639*; secondly the Stipulæ are divided into many more lacinia; the flowers and consequently the Pods grow in a kind of Cluster, whereas there is seldom more than two grow together in the *Tetraspermum*; and lastly, which seems to be the best distinction, the Pods are rough and contain two Seeds in each, while in the *Tetraspermum*, they are smooth and contain four Seeds.









# ERVUM TETRASPERMUM. SMOOTH-PODDED TINE TARE.

ERVUM *Linnaei Gen. Pl.* DIADELPHIA DECANDRIA.

*Raii Syn. Gen.* 23. HERBÆ FLORE PAPILIONACEO SEU LEGUMINOSÆ.

ERVUM (*tetraspermum*) pedunculis subbifloris, feminibus globosis quaternis: *Linn. Syst. Vegetab.* p. 554.

VICIA foliis linearibus, filiquis gemellis glabris. *Haller hist. v. 1.* p. 184.

ERVUM *tetraspermum.* *Scopoli Fl. Carniol.* DIAGN. Pedunculi subbiflori. Siliqua glabra, obtusa, tetrasperma.

VICIA fegetum singularibus filiquis glabris. *Baubin Pin.* p. 345.

VICLÆ five Craccæ minimæ species cum filiquis glabris. *I. Baubin.*

CRACCA minor filiquis singularibus, flosculis cœrulefcentibus. *Hoff. C. H. Alt. Raii Syn.* p. 322. Tine-

Tare with smooth pods. *Hudson Fl. Angl.* p. 280. *Oeder Fl. Dan. Icon.* 95.

RADIX annua, fibrosa.

CAULES in apertis locis læves, tenues, debiles, inter segetes vero, (ubi sæpius invenitur) capreolis erecte sese sustentant, pedales et ultra.

STIPULÆ ad basin foliorum, duo, simplices, utrinque acuminatæ.

FOLIA pinnata, lævia, lanceolata-linearia, parium trium ad quinque usque, capreolo ramofo terminata.

PEDUNCULI longitudine foliorum, plerumque biflori.

CALYX PERIANTHIUM quinquedentatum, persistens, dentibus inæqualibus, acutis, duobus superioribus brevioribus, latioribus, sursum tendentibus, obtuse divisus, *fig. 1.*

COROLLA papilionacea, *fig. 2*; VEXILLUM subemarginatum, limbus reflexus, venis purpureis pictus, *fig. 4*; ALÆ albæ, conniventes, *fig. 5*; CARINA alis brevior, obtusa, *fig. 6.*

STAMINA: FILAMENTA diadelphea (simplex et novemfidum) assurgentia, *fig. 7, 8*, supremum liberum, *fig. 8*; ANTHERÆ simplices.

PISTILLUM: GERMEN compressum; STYLUS assurgens; STIGMA capitatum, villosum, *fig. 9.*

PERICARPIUM: LEGUMEN læve, teretiusculum, *tetraspermum*, *fig. 10.*

SEMINA subrotunda, fuscescentia, nigro marmoreata, *fig. 11.*

ROOT annual and fibrous.

STALKS in open places are slender and weak, but among the Corn, (where this plant is most commonly found,) they support themselves upright by means of their tendrils, and grow to a foot or more in height.

STIPULÆ at the bottom of the leaves, two, simple, and pointed at each end.

LEAVES pinnated, smooth, lanceolate and linear, from three to five pair, terminated by a branched tendril.

PEDUNCLES the length of the leaves, generally sustaining two flowers.

CALYX a PERIANTHIUM having five teeth and continuing, the teeth unequal and pointed, the two uppermost shortest, broadest, and turning a little upwards, at bottom obtusely divided, *fig. 1.*

COROLLA papilionaceous, *fig. 2*; the VEXILLUM slightly nicked in at top, the limb somewhat turned back and streaked with purple, *fig. 4*; the ALÆ white and closing together, *fig. 5*; the CARINA shorter than the Alæ and obtuse *fig. 6.*

STAMINA: Ten FILAMENTS uniting into two bodies, of which one forms the lowermost, *fig. 7*, and one the uppermost which is free, *fig. 8*; ANTHERÆ simple.

PISTILLUM: GERMEN flatten'd; STYLE rising upward; STIGMA forming a little head and villos, *fig. 9.*

SEED-VESSEL: a LEGUMEN, smooth, roundish, and containing four seeds, *fig. 10.*

SEEDS nearly round, brownish and mottled with black, *fig. 11.*

This species of *Ervum* or *Tine-Tare* is found in most Corn-fields, often to the Farmers sorrow, as it frequently proves very injurious to the Corn, laying hold of it by means of its tendrils, and if the season favours its growth quite overcoming it. Like most plants of this kind it is exceedingly fertile; on one plant which I casually pulled up, I counted 220 pods, and as each pod contains four seeds, there must have been from a single seed the amazing produce of 880.

At first sight this species has a considerable resemblance to the *Ervum hirsutum*, but the slightest attention will discover the difference; in the *Ervum hirsutum* the pods contain only two seeds and are hairy; in the *Tetraspermum* they contain four and are smooth; in the *hirsutum* the flowers grow in a kind of cluster, in this species there is seldom more than two grow together.

The figure which I have given is intended to represent the plant as it grows among the Corn; when it is found by itself and in a poor soil it is often not so large.





*Ervum tetraspermum*

*Fl. pers. et. 1780*









# Hypericum pulchrum. Small upright St. John's Wort.

HYPERICUM *Linnaei. Gen. Pl. POLYADELPHIA POLYANDRIA.*

*Raii Syn. Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.*

HYPERICUM floribus trigynis; calycibus ferrato-glandulosis, caule tereti, foliis perfoliatis glabris.

*Linn. Sp. Pl. 1106.*

HYPERICUM *pulchrum* Tragi. *J. Baubin. Hist. III. 183. Raii Synop. 342.*

HYPERICUM minus, erectum. *Baubin. Pin. 279.*

HYPERICUM foliis amplexicaulibus, cordatis, calycibus ovatis, ferratis, glanduliferis. *Haller hist. n. 1041.*

*Gerard. emac. 540. Hudson. Fl. Angl. 290. Oeder. Flor. Dan. Icon. 75.*

RADIX perennis.

CAULIS pedalis ad bipedalem, erectus, teres, fig. 1, glaber, subramosus, geniculi distantes.

RAMI oppositi, breves, tenues, cauli similes.

PEDUNCULI teretes, plerumque triflori.

FOLIA CAULIS cordato-triangularia, glaberrima, amplexicaulia, saturate viridia, patentia, quam in cæteris Hypericis solidiora, versus marginem perforata, inferiora frequenter coccinea; RAMORUM ovata, caulis triplo minora; PEDUNCULORUM ovato-lanceolata.

CALYX: PERIANTHIUM quinquepartitum, LACINIIS ovatis, acutis, striatis, margine ferratis, dentibus glanduliferis, glandulis nigro rufis, fig. 2.

COROLLA: PETALA quinque, oblongo-ovata, flava, contorta, leviter striata, subtus aurantiaco lineata, margine subferrata, et glandulis cincta, fig. 3.

STAMINA: FILAMENTA triginta sex, filiformia, in tres fasciculos ad basin coalita, in singulo fasciculo duodecim: ANTHERÆ biloculares, subrotundæ: POLLEN minaceum, fig. 4.

PISTILLUM: GERMEN ovatum: STYLI tres, longitudine germinis, divaricantes: STIGMATA parva, subrotunda, fig. 5.

PERICARPIUM: CAPSULA subconica, trilocularis, fusca, fig. 6, 7.

SEMINA plurima, oblonga, fusca, fig. 8.

ROOT perennial.

STALK from one to two feet high, upright, round, fig. 1, smooth, and thinly branched, the joints remote from each other.

BRANCHES opposite, short, slender, and like the stalk.

PEDUNCLES round, generally sustaining three flowers.

LEAVES of the STALK triangularly heart-shaped, smooth, shining, embracing the stalk, nearly horizontal, of a deep green colour, more solid to the touch than the other St. John's Worts, perforated near the edge, and frequently of a bright red colour towards the bottom; those of the BRANCHES oval, three times smaller than those of the stalk; and those of the PEDUNCLES lancet-shaped.

CALYX: a PERIANTHIUM divided into five Segments, the SEGMENTS oval, pointed, striated, ferrated, and edged with little glands of a blackish red colour, fig. 2.

COROLLA: five PETALS, oblong, oval, yellow, slightly striated; on the under side tinged with a bright orange, slightly ferrated, and edged with glands, fig. 3.

STAMINA. The FILAMENTS numerous, to thirty-six, filiform, uniting at bottom in three Fasciculi or Bundles, in each Fasciculus twelve: the ANTHERÆ roundish and bilocular, fig. 4; the POLLEN bright scarlet.

PISTILLUM: GERMEN oval: three STYLES, the length of the Germen, spreading: the STIGMATA small and roundish, fig. 5.

SEED-VESSEL; a CAPSULE somewhat conical, of a brown colour, with three cavities, fig. 6, 7.

SEEDS numerous, oblong, and brown, fig. 8.

THE antient Botanists gave this plant the name of *Pulchrum* from its beauty; and LINNÆUS has very properly continued it. Many will, no doubt, think it deserving of a place in their gardens. It is fond of a clayey soil, and woody situation, and is found in all the woods about town; as *Hornsey Wood*, beyond *Islington*; *Oak of Honour Wood*, (as it is generally called,) a little beyond *Peckham*; *Charlton Wood*, by *Greenwich*; likewise on *Hounslow-Heath*. It flowers in the month of July, and continues but a short time in blossom.

Its virtues as a medicine, are probably the same with the common *St. John's Wort*.



*Hypericum pulchrum.*

*Willd. pinus et sculp.*











*Hypericum Perforatum*



# HYPERICUM PERFORATUM. COMMON St. JOHN'S WORT.

HYPERICUM *Linnaei Gen. Pl. POLYADELPHIA POLYANDRIA.*

*Raii Synopsis Gen. 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.*

HYPERICUM *perforatum*, floribus trigynis, caule ancipiti, foliis obtusis pellucido-punctatis. *Linnaei Syst. Vegetab. p. 584. Fl. Suecic. n. 680.*

HYPERICUM caule terete, alato, ramosissimo; foliis ovatis, perforatis. *Haller: hist. vol. 2: p. 4.*

HYPERICUM vulgare *Baubin. Pin. p. 279. Gerard. emac. 540. Parkinson 572. Raii Synop. 342. Hudson Fl. Angl. 290. Scopoli. Fl. Carniol. n. 944.*

Tota planta glandulis nigris adspersa.

RADIX perennis, lignosa, fusca.

CAULES plerumque plures ex eadem radice, bipedales, erecti, sublignosi, *laeves, teretes, alternè ancipites fig. 1*, ramosi.

RAMI oppositi, suberecti, ancipites.

FOLIA opposita, sessilia, ovato-oblonga, obtusa, perforata five pellucido-punctata, heptanervia ex luteo-viridia. *fig. 2.*

PEDUNCULI ancipites, multiflori.

PANICULA densa.

CALYX: PERIANTHIUM quinquepartitum, striatum, laciniis lanceolatis, acuminatis, nudis. *fig. 3.*

COROLLA: petala quinque, flava, ad unum latus crenulata, glandulis nigris adspersa. *fig. 4.*

STAMINA: FILAMENTA plurima, in tria corpora vix coalita. *fig. 5.* ANTHERÆ flavæ, biloculares, loculis subrotundis, inter quos glandula nigra ponitur. *fig. 6.*

PISTILLUM: GERMEN subovatum, STYLI tres divaricantes: STIGMATA simplicia. *fig. 7.*

PERICARPIUM: CAPSULA subtrigona *fig. 8.* trilocularis *fig. 9.* pallide fusca.

RECEPTACULUM seu Thalamus feminum foramine triquetro gaudet, quod in pericarpium immaturi sectione transversa clare distingui potest, ut observavit Cl. Scopoli.

SEMINA plurima, oblonga, fusca. *fig. 10. 11.*

The whole plant is sprinkled over with small black glands.

ROOT perennial, woody, of a brown colour.

STALKS several for the most part, springing from the same root, about two feet high, upright, woody, smooth, round, alternately two edged, *fig. 1*, much branched.

BRANCHES opposite, nearly upright, two edged.

LEAVES opposite, sessile, of an oblong oval shape, obtuse, having the appearance of being all over perforated, of a yellowish green colour, with seven nerves or ribs, *fig. 2*

PEDUNCLES two edged, supporting many flowers.

PANICLE bushy.

CALYX A PERIANTHIUM divided into five segments, and striated, the segments narrow and pointed, without any glands on them. *fig. 3.*

COROLLA: five PETALS of a yellow colour, notched irregularly on one side, and sprinkled over with little black glands. *fig. 4.*

STAMINA: FILAMENTS numerous, uniting at bottom in three scarcely distinct bodies or fasciculi *fig. 5.* ANTHERÆ yellow and bilocular, each of the Cavities of a roundish figure, and between them is situated a small black gland. *fig. 6.*

PISTILLUM: GERMEN somewhat oval, three STYLES which divaricate; the STIGMATA simple, *fig. 7.*

SEED-VESSEL: a CAPSULE somewhat triangular, *fig. 8.* of a pale brown colour, with three Cavities, *fig. 9.*

RECEPTACLE: the Receptacle which is continued through the Capsule, and connects the Cavities together, has a triangular hole in it, which is very obvious in a transverse section of it before it is ripe,—as the celebrated *Scopoli* has justly observed.

SEEDS numerous, oblong, and brown, *fig. 10. 11.*

It very often happens, that some of the minute parts of the Flower, and Seed, afford a more obvious, certain, and constant mark of specific difference, than any part of the plant besides, and we have a remarkable instance of the truth of this observation in the plant before us. A little gland, of a black colour, placed on the summit of the Anthera, at one view distinguishes this species, without any farther investigation: did such obvious distinctions prevail in all plants, a knowledge of them might with much ease be acquired; and fortunately we shall find, on examination, such marks more frequently occur than is generally imagined; whenever they do, we shall not fail to remark them.

The apparent perforation of the leaves, from whence this species is named, is not peculiar to it alone.

Although in the present practice this officinal plant does not seem to be much regarded, yet its sensible qualities, and the repeated testimonies of its virtues, entitle it as Dr. Cullen\* observes to farther trials. To the taste it is astringent and bitter, and its effects seem to be chiefly diuretic. From possessing properties which have generally been called balsamic, it has been used as a vulnerary in external wounds, and internal hemorrhages, for the former purpose, the tops of the plant with the flowers are infused in oil, and for the latter, an infusion of the plant is made in the manner of Tea. It has likewise been given in ulcerations of the kidneys, and has even been supposed to possess virtues as a febrifuge.

It has had the ill fate to be abused by the superstition of the common people in France and Germany, who gather it with great ceremony on St. John's Day, and hang it in their Windows, as a certain charm and defence against Storms, Thunder, and evil Spirits; mistaking the meaning of some medical writers, who have fancifully given this plant the name of *Fuga Dæmonum* because they supposed, if given internally, it was a good medicine for maniacal and hypochondriacal Disorders.

The dried plant boiled with Allum dyes Wool of a yellow colour. It grows very common in hedges and fields that are but seldom tilled, and flowers in August and September.

\*Vid. Dr. Cullen's Materia Medica p. 206.











*Leontodon Taraxacum.*



# LEONTODON TARAXACUM. DANDELION.

LEONTODON *Linnaei Gen. Pl.* SYNGENESIA. POLYGAMIA ÆQUALIS.

*Raii Synopsis ed. 3. Gen. 6. HERBÆ FLORE COMPOSITO, NATURÆ PLENØ LACTESCENTES.*

LEONTODON *Taraxacum* calycis squamis inferne reflexis, foliis runcinatis denticulatis lævibus. *Linnaei Syst. Vegetab. p. 596. Sp. Plant 1122. Fl. Suecic. 270.*

TARAXACUM calycibus glabris, squamis imis reflexis. *Haller hist. v. i. p. 56.*

HEDYPNOIS *Taraxacum Scopoli Flor. Carn. n. 957.*

HEDYPNOIS major *Fuschii.*

DENS LEONIS latiore folio *Baubin. Pin. p. 126. Gerard. emac. 290, Parkinson 780. Raii Syn. ed. 3. p. 170. Hudfon Fl. Angl. p. 297. Oeder. Fl. Dan. Icon. 574.*

RADIX perennis, subfusiformis, lactescens, externe pallide fusca.

FOLIA laciniato-pinnatifida, plus aut minus profunde incisa, laciniis acutis et acute dentatis, plerumque lævia, nonnunquam vero fubaſpera.

SCAPI nudi, fistulosi, lactescentes, versus apicem subtomentosi, uniflori.

CALYX communis lævis, glaucus, squamis inferioribus reflexis, fig. 1.

COROLLA composita, flava, corollulis hermaphroditis, numerosis, æqualibus. Propria monopetala, ligulata, truncata quinquedentata, fig. 2.

STAMINA: FILAMENTA quinque capillaria, brevissima, fig. 3. ANTHERÆ flavæ, in tubum cylindraceum coactæ, fig. 4.

PISTILLUM: GERMEN oblongum, fig. 5, STYLUS longitudine corollæ, fig. 6. STIGMATA duo revoluta, fig. 7.

SEMEN subincurvatum, subcompressum, subtrigonum, striatum, apice echinatum, pallide olivaceum, fig. 8, 9. PAPPUS stipitatus, simplex, stipite brevior, fig. 10

RECEPTACULUM nudum, alveolatum. fig. 11.

ROOT perennial, tapering, milky, externally of a pale brown colour.

LEAVES more or less deeply jagged, each jag or lacina pointed, and sharply indented, generally smooth, but sometimes a little rough.

STALKS naked, hollow, milky, towards the top covered with a kind of down, supporting one flower on each.

CALYX: the common or general Calyx smooth, glaucous, the lowermost leaves or squamæ turning back, fig. 1.

COROLLA: the flower compounded of a great number of COROLLULÆ or lesser flowers, which are yellow, hermaphrodite and equal; each Corollula monopetalous, tubular at bottom, and flat towards the extremity, the apex truncated and quinquedentate. fig. 2.

STAMINA: five FILAMENTS small and very short, fig. 3. the ANTHERÆ yellow, uniting and forming a cylindrical tube. fig. 4.

PISTILLUM: GERMEN oblong, fig. 5. STYLE the length of the COROLLA, fig. 6. STIGMATA two, rolling back, fig. 7.

SEED a little crooked, flattish, and somewhat four square, striated or grooved, at top prickly, of a pale olive colour, fig. 8, 9. the Down or pappus standing on a footstalk, simple, not feathery, shorter than the footstalk, fig. 10.

RECEPTACLE naked, and full of little holes, fig. 11.

As a medicinal plant the Dandelion is thought to possess considerable virtues, and has been frequently made use of in obstructions of the Viscera, particularly the Jaundice. Some recommend the juice, others a decoction of the whole plant. It appears to operate chiefly by urine, and from possessing this property in a considerable degree it has acquired its vulgar name of *Piss-a-bed*. Its other, and more common name, seems to be a corruption of the French term *Dent de Lion*.

As a kind of fallad, this plant is by many preferred to any other, particularly by the inhabitants of Spitalfields, many of whom being descended from French families, that forsook their native country for one more favourable to religious liberty, still retain the peculiar customs of that people in their diet, &c. They blanch, or whiten it as the gardeners do endive, and the inferior class generally use the simple process of laying a tile on it, for whatever excludes the light from this or any other plant will make it become white, all plants deriving their colours from the fountain of light, the sun. And it is remarkable, that many plants containing bitter and acrid juices are rendered by this process mild, sweet, and agreeable: who, for instance, could eat endive, celery, or even lettuce, in their wild uncultivated states?

The Dandelion grows in the greatest plenty in rich meadows, although it is very common on walls, and in courts and areas; when growing in a barren soil or dry situation the leaves become more narrow and jagged.

It flowers in May, and is the first plant which covers our meadows with a beautiful yellow coat, a few weeks afterwards, when it produceth its seed, it changes this for a white one.

Children frequently amuse themselves with blowing off the seeds, which stand naked on the receptacle or top of the stalk, and the round white heads, formed by the expansion of their pappus or down, they call *clocks*.

The young botanist generally finds some difficulty in acquiring a clear idea of the structure of these compound flowers, occasioned by the minuteness of the parts of fructification, which however are much larger and more conspicuous in this than in many others of the class SYNGENESIA, and therefore a proper flower for him to begin with.

On examining the flower of the Dandelion he will find that it is not a double flower, properly so called, as he might be led to think from its fullness, but that it is composed of a great number of *Flosculi*, or lesser flowers placed close together on one common receptacle or bottom, and enclosed by one common or general calyx. On dissecting each of these *Flosculi*, he will find them to consist of a COROLLA, or PETAL fig. 2, which at bottom is tubular, but towards the extremity flat, that from the bottom or tubular part of the corolla, five FILAMENTS spring, which are small and short, yet loose and unconnected fig. 3, that these filaments are furnished with ANTHERÆ, which unite together and form a long slender tube fig. 4, beneath the corolla is placed the GERMEN, or future seed fig. 5, from whence the STYLE, or middle part of the Pistillum proceeds and passes up through the middle of the flower, betwixt the Filaments and through the tube formed by the union of the Antheræ, fig. 6, and is furnished at top with two STIGMATA which roll back, fig. 7, at a little distance from the Germen the lower part of the Stylus is surrounded by numerous upright hairs which are the future PAPPUS or Down, fig. 10.

This, then, he will find to be the appearance of the parts of fructification in a full blown flower.

Those parts of the flower which were more immediately or more remotely necessary to the impregnation of the Seed having now performed their office decay, the Corolla with the Stamina and upper part of the Pistillum drops off, the Seed becomes larger, the lower part of the Pistillum remains, is elongated and becomes the footstalk of the Pappus, and the Seed as yet immature with the Pappus as yet moist are all enclosed and pressed by the Calyx into a conical form. This is its appearance in its second state.

The fructification still going forward the seed becomes ripe and brown, the PAPPUS now deprived of its moisture expands itself every way, fig. 10, pushes back the Calyx, and assumes a spherical form. The seeds fitted for vegetation and thus exposed are carried away by the first strong wind, and "a new race planted far from their native soil."

Such then is the curious process which nature makes use of in the perfecting and dissemination of this plant.









# LAPSANA COMMUNIS. NIPPLEWORT.

LAPSANA *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA ÆQUALIS.

*Receptaculum* nudum. *Cal.* calyculatus, squamis fingulis interioribus canaliculatis.

*Raii Syn. Gen.* 6. HERBÆ FLORE COMPOSITO NATURA PLENO LASTESCENTES.

LAPSANA *communis* calycibus fructus angulatis pedunculis tenuibus ramofiffimis. *Linnaei Syst. Vegetab.*

*p.* 602. *Sp. pl.* 1141. *Fl. Suecic.* *p.* 277.

LAMPSANA caule brachiato; foliis ovatis longe petiolatis; petiolis pinnatis. *Haller hist. n.* 6.

LAMPSANA *communis.* *Scopoli Fl. Carniol. n.* 988.

SONCHO affinis Lampsana domestica. *C. Baubin pin. p.* 124.

LAMPSANA *Gerard. emac.* 255.

LAMPSANA vulgaris. *Parkinson 810. Raii Syn.* 173. *Hudson Fl. Angl. p.* 303.

RADIX annua, simplex, fibrofa.

CAULIS erectus, rigidus, bicubitalis, striatus, ramosus, hirsutus.

FOLIA opposita, hirsutula, ad radicem et in ima parte caulis uno vel altero pinnularum pari donata, segmento terminali magno, ovato, dentato, superiora oblonga, dentata.

CALYX: communis calyculatus, angulatus, lævis, squamæ ad basin minimæ erectæ, *fig.* 1.

COROLLA composita, imbricata, Corollulis hermaphroditis æqualibus; *propria* monopetala, ligulata, truncata quinque dentata, *fig.* 2.

STAMINA: FILAMENTA quinque capillaria, brevissima; ANTHERÆ cylindracea tubulosa, *fig.* 2.

PISTILLUM: GERMEN oblongiusculum; STYLUS filiformis, longitudine Staminum; STIGMA bifidum, reflexum, *fig.* 2.

SEMINA circiter octodecem, oblonga paululum incurvata, pappo destituta, intra calycem, *fig.* 3, 4.

ROOT annual, simple, and fibrous

STALK upright, rigid, about two cubits high, striated, branched, hairy.

LEAVES opposite, somewhat hairy, at the root, and on the lower part of the stalk furnished with one or two pair of pinnulæ; the segment which terminates the leaf large, oval, and indented; the upper leaves oblong and indented.

CALYX; the common Calyx smooth, and furnished at bottom with a few minute, upright squamulæ, *fig.* 1.

COROLLA compound, imbricated, the floscules hermaphrodite and equal; each of them monopetalous, ligulate, truncated, and having five teeth, *fig.* 2.

STAMINA: five small and very short FILAMENTS; ANTHERÆ uniting into a tube, *fig.* 2.

PISTILLUM: GERMEN oblong; STYLE filiform, the length of the Stamina: STIGMA bifid and turning back, *fig.* 2.

SEEDS about eighteen, oblong, a little bent in, without any down, contained within the Calyx, *fig.* 3, 4.

In gardens as a weed, this plant answers very well to the name of *communis*, being in general too common. Nature seems amply to have supplied the want of pappus or down in the seeds, by the great number of them produced in each plant. It also occurs on the sides of banks, and in all cultivated ground; flowering during most of the Summer months.

According to RAY it receives its name of *Nipplewort* from its efficacy in curing sore nipples: no other virtues or uses seem attributed to it.





*Lapsana communis.*











*Erigeron acer.*

# ERIGERON ACRE. PURPLE ERIGERON.

ERIGERON *Linnaei. Gen. Pl. SYNGENESIA POLYGAMIA SUPERFLUA.*

*Raii Synopsis. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES, FLORÆ*

DISCOIDE.

ERIGERON *Acre pedunculis alternis unifloris. Lin. Sp. Pl. 1211.*

ERIGERON *polymorphum Scopoli. Fl. Carniol. DIAGN. folia lanceolata, basi et apice attenuata. Germina villosa. Pappus rufus.*

ERIGERON caule alterne ramoso, petiolis unifloris, semiflosculis pappum æquantibus, et semiflosculis pappum superantibus *Haller. hist. n. 85. 86.*

CONYZA cærulea acris *Baubin Pin. 265. Gerard emac. 484.*

ASTER arvensis cæruleus acris: *Raii Syn. 175. Blue-flowered sweet Fleabane.*

CONYZA odorata cærulea *Parkinson 126.*

SENECIO five Erigeron cæruleus *L. B. II. 1043 Hudson Fl. Angl. 314. Oeder Fl. Dan. Tab. 292.*

RADIX perennis, fibrosa, fibris pallide fuscis.

ROOT perennial and fibrous, the fibres of a pale brown colour.

CAULIS erectus, rigidus, pedalis, pupureus, striatus, foliosus, hirsutus, in quibusdam vix ramosus in aliis ramosissimus.

STALK upright, rigid, about a foot high, purple, striated, leafy, and hirsute, in some scarce branched at all, in others very much so.

FOLIA alterna, sessilia, hirsuta, inferiora obtuse ovata basi angustiora, superiora angusta, reflexa, tortuosa, ramorum linearia, subrecta.

LEAVES alternate, sessile, hirsute, the bottom ones of a blunt oval shape, and narrow at bottom, the upper ones narrow, turning back and twisted, those of the branches linear and nearly upright.

FLORES erecti, nunquam sese explicantes sicut plerique flores Classis Syngenesiæ, externi purpurei, interni flavescentes, cum cavitate in medio.

FLOWERS upright, never expanding themselves like most of the flowers of the Class Syngenesia, externally purple, internally yellow, with a cavity in the middle.

CALYX communis imbricatus, squamis subulatis, erectis, purpureis, hirsutis, laxis, fig. 1.

CALYX: the common Calyx composed of a number of scales, which are narrow and pointed, upright, purplish, hirsute, and loosely connected fig. 1.

COROLLA composita, radiata; Corollulæ hermaphroditæ tubulosæ, numerosæ in disco, fig. 2. femineæ ligulatæ, pauciores in radio, fig. 3. Propria hermaphroditi infundibuliformis, flava, limbo quinquefido, fig. 2: Femineæ ligulata, linearis, erecta, purpurea, hermaphroditâ longior, fig. 3.

COROLLA compound and radiated; the hermaphrodite flowers tubular and numerous in the middle, fig. 2. the female flowers ligulate, and fewer in the circumference, fig. 3: each hermaphrodite floscule, funnel-shaped, yellow, with the limb divided into five segments, fig. 2: each female floscule, linear, upright, purple, longer than the hermaphrodite flower, fig. 3.

STAMINA hermaphroditis: FILAMENTA quinque, capillaria, brevissima: ANTHERÆ in tubum coalitæ.

STAMINA in the hermaphrodite flowers: five FILAMENTS, very small and short; the ANTHERÆ united into a tube.

PISTILLUM Hermaphroditis: GERMEN coronatum Pappo corolla paulo longior, fig. 4. STYLUS filiformis longitudine Pappi fig. 5; STIGMA bifidum fig. 6: Femineis: GERMEN tenue, Pappo longitudine fere Corollæ, fig. 7; STIGMATA duo, tenuissima, fig. 8.

PISTILLUM of the hermaphrodite flowers; the GERMEN crowned with a Pappus or Down a little longer than the Corolla, fig. 4; the STYLE filiform, the length of the Pappus, fig. 5; STIGMA bifid, fig. 6: of the Female flowers; the GERMEN slender, the Pappus nearly the length of the Corolla, fig. 7; two STIGMATA very slender, fig. 8.

SEMINA oblonga, pallide fusca, hirsuta, lente auet: fig. 9: PAPPUS sessilis, lutescens, simplex, fig. 10.

SEEDS oblong, of a pale brown colour, hirsute, magnified fig. 9; PAPPUS sessile, yellowish and simple fig. 10.

The Erigeron Acre is by no means a common plant in our neighbourhood, yet occurs very frequently on the hilly and chalky ground about *Charlton Wood*, particularly in the chalk pits on the left hand side of the lane behind the Church.

It flowers in the months of August and September, and is considered as a pretty sure indication of a barren soil. It has a taste somewhat warm and biting, and hence has received its name of *Acris*.

We have rather chosen to retain LINNÆUS's name of *Erigeron* than adopt RAY's name of *Fleabane*, which tends to confound it with the Genus *Conyza*.

It frequently grows much taller, and is often found much smaller than the specimen we have figured.









# SENECIO VULGARIS. GROUNDSEL.

SENECIO *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA. *Receptaculum nudum. Pappus simplex.*

*Calyx cylindricus, calyculatus; squamis apice sphacelatis.*

*Raii Syn. HERBÆ FLORE COMPOSITO, SEMINE PAPPOSO NON LACTESCENTES, FLORE DISCOIDE.*

SENECIO *vulgaris* corollis nudis, foliis pinnato-finuatis amplexicaulibus, floribus sparsis. *Linn. Syst. Vegetab.*

*p. 630. Sp. Pl. 1216. Fl. Suecic. p. 290.*

SENECIO corollis nudis, foliis pinnato-finuatis amplexicaulibus, floribus sparsis. *Haller hist. n. 58.*

SENECIO *vulgaris. Scopoli Fl. Carniol. p. 162. n. 1063. Hudson Fl. Angl. p. 315.*

SENECIO minor vulgaris. *Baubin Pin. 181.*

SENECIO *vulgaris. Parkinson 671.*

ERIGERON *Gerard. emac. 278. Raii Syn. p. 178. Common Groundfel or Simfon.*

RADIX annua, e plurimis fibrillis albidis constans.  
CAULIS simplex, erectus, pedalis, ramosus, sæpe purpureus, subangulosus, in junioribus plantis versus apicem subtomentosus.

FOLIA obscure virentia, glabra, amplexicaulia, pinnato-finuata, pinnis acute dentatis.

PEDUNCULI striati, uniflori, primum erecti, peracta florescentiâ penduli, demum erecti.

CALYX: communis primum cylindraceus, demum conicus; Squamis subulatis, plurimis, in cylindrum superne contractis parallelis, contiguis, æqualibus, paucioribus basin imbricatim tegentibus, apicibus omnium nigricantibus, fig. 1.

COROLLA Composita, longitudine calycis; Corollulæ hermaphroditæ, tubulosæ, numerosæ in disco, infundibuliformes; limbo reflexo, quinquefido: Radio nullo, fig. 2, 3.

STAMINA: FILAMENTA quinque, capillaria, minima; ANTHERA cylindracea, tubulosa.

PISTILLUM: GERMEN ovatum; STYLUS filiformis, longitudine staminum; STIGMATA duo oblonga, revoluta.

SEMEN oblongum, striatum, fuscum; PAPPUS simplex, albus, femine triplo fere longior, fig. 4; RECEPTACULUM nudum, scabrum.

ROOT annual, consisting of numerous white fibres.  
STALK single, upright, about a foot high, branched, often purple, slightly angular, in the young plants, towards the top, thinly covered with down.

LEAVES of a deep and dull green colour, smooth, embracing the stalk, pinnato-finuata, the pinnæ sharply indented.

PEDUNCLES striated, supporting one flower on each, at first upright, when the flowering is over they become pendulous, and lastly upright.

CALYX; the common Calyx first cylindrical and lastly conical; the Squamæ subulate, numerous, contracted above into a Cylinder, parallel, contiguous and equal; those at the base of the calyx fewer, lying one over another, the tips of all of them blackish, fig. 1.

COROLLA Compound, the length of the Calyx; the Florets hermaphrodite, tubular and numerous in the disk or middle, funnel-shaped, the limb reflex and divided into five segments: the Radius wanting, fig. 2, 3.

STAMINA: FILAMENTS five, capillary, and very minute: ANTHERÆ united into a tube.

PISTILLUM: GERMEN oval; STYLE filiform the length of the Stamina; STIGMATA two, oblong, and bent back.

SEED oblong, striated and brown; the PAPPUS simple, white, almost three times the length of the seed, fig. 4; RECEPTACLE naked, and rough.

The Groundfel is a Plant which is well known to grow exceedingly common in Gardens, cultivated Ground, and on Walls, flowering all the year if the weather be mild.

Although it is scarcely used at present as a medicine, yet according to some Authors it is not without considerable virtues: the juice, or decoction of it taken internally, operates gently by vomit; and the plant externally applied, is said to be useful in inflamed Breasts, the Scrophula, and other Inflammations.

Mr. RAY suspects that it might be given with advantage in Worms, as Farriers and Horse-dealers give the juice of it to Horses that are troubled with those kind of Worms called *Bottes*, and to which it is presently fatal.

Birds of various kinds are fond of the seeds and tops of this plant; and a great variety of Caterpillars particularly those of the *Phalæna Jacobææ* eat it readily.



*Senecio vulgaris.*

*Tabern. mont. et Rudb.*









# BELLIS PERENNIS. COMMON DAISY.

- BELLIS. *Linnaei Gen. Pl.* SYNGENESIA POLYGAMIA SUPERFLUA.  
*Raii Synopsis Gen. 8.* HERBÆ FLORE COMPOSITO DISCOIDE, SEMINIBUS PAPPO DESTITUTIS, CORYMBIFERÆ DICTÆ.  
 BELLIS *perennis*, scapo nudo. *Linnaei System. Vegetab. p. 640. Fl. Suecic. p. 296. Haller hist. p. 39. Scopoli. Fl. Carniol. v. 2. 146.*  
 BELLIS *fylvestris minor* *Baubin pin. 261. Gerard emac. 635. Parkinson 530. Raii Syn. p. 184. Hudson Fl. Angl. 320. Oeder. Fl. Dan. icon. 503.*

RADIX	<i>perennis</i> , fibrosa.	ROOT	perennial, and fibrous.
FOLIA	ovata, dentata, hirsutula, in petiolos longos decurrentia; disrupta fila trahentia.	LEAVES	oval, indented, slightly hirsute, running down the footstalks, which are long and if broke across appear stringy.
SCAPI	teretes, hirsuti, triunciales, uniflori, ad apicem fistulosi.	STALKS	round, hirsute, about three inches high, supporting one flower, at top hollow.
CALYX	<i>communis simplex</i> , foliolis æqualibus <i>fig. 1.</i> apice membranaceis, hirsutis, obtusis <i>fig. 2.</i> lente auct.	CALYX	the <i>common</i> calyx simple, the leaves equal, <i>fig. 1.</i> at the top membranous, hairy and obtuse, <i>fig. 2.</i> one of the tips magnified.
COROLLA	<i>composita</i> , radiata: <i>Corollulæ</i> hermaphroditæ, tubulosæ, numerosæ in disco. <i>Femineæ</i> ligulatæ, calycis foliis plures in radio. Flosculi <i>Hermaphroditi</i> infundibuliformes quinquefidi flavi, <i>fig. 3, 4.</i> lente auct: <i>Femineæ</i> ligulati, lanceolati, albi, <i>fig. 10.</i>	COROLLA	<i>Compound</i> and radiated: the <i>Corollulæ</i> or flosculi in the disk or middle numerous, tubular, and <i>hermaphrodite</i> , those in the radius or circumference flat, more numerous than the leaves of the calyx, and <i>female</i> . the <i>Hermaphrodite</i> Flosculi funnel shaped, divided into five segments and yellow, <i>fig. 3, 4.</i> magnified. The <i>Female</i> flosculi tubular at bottom, flat towards the extremity, lanceolate, and white, <i>fig. 13.</i>
STAMINA	<i>Hermaphroditi</i> : FILAMENTA quinque brevissima, <i>fig. 5.</i> ANTHERA cylindracea, tubulosa, <i>fig. 6.</i>	STAMINA	in the <i>Hermaphrodite</i> flower: five FILAMENTS very short, <i>fig. 5.</i> ANTHERÆ united into a tube, <i>fig. 6.</i>
PISTILLUM	<i>Hermaphroditi</i> : GERMEN ovatum, <i>fig. 9.</i> STYLUS filiformis, <i>fig. 8.</i> STIGMA crassiusculum, bifidum, <i>fig. 7.</i> <i>Femineæ</i> : GERMEN ovatum, <i>fig. 13.</i> STYLUS filiformis. STIGMATA duo patula, linearia, <i>fig. 11.</i>	PISTILLUM	of the <i>Hermaphrodite</i> flower: GERMEN oval, <i>fig. 9.</i> STYLE thread-shaped, <i>fig. 8.</i> STIGMA thickish and bifid, <i>fig. 7.</i> of the <i>Female</i> flower: GERMEN oval, <i>fig. 9.</i> STYLE thread-shaped, two STIGMATA narrow and spreading, <i>fig. 11.</i>
SEMINA	ovata, compressa, marginata, pappo destituta, <i>fig. 14.</i>	SEEDS	oval, flat, margin'd without any pappus or down, <i>fig. 14.</i>
RECEPTACULUM	nudum, conicum, <i>fig. 15.</i>	RECEPTACLE	naked and of a conical figure, <i>fig. 15:</i>

The Daisy has been recommended by some writers to be given in hectic fevers, caused by drinking cold water when the blood has been heated by exercise, either infused in water or milk.

In some parts of Germany, it is said to be boiled and eaten with meat as a pot-herb; but it does not seem to promise much either as physic or food for man. Sheep and horses refuse it, and it is very probable that none of our cattle eat it willingly; if so the owners of lands pay dear for their enamelled meads, and daisied carpets, but this part of husbandry seems as yet little understood or attended to. As rural æconomists we have ventured to say thus much in dispraise of this flower, notwithstanding the lavish encomiums the father of our English poets has bestowed on it:

———— In special one called Se of the daie

The Däisse, a floure white and rede,  
 And in french called *La bel Margarete*  
 O commendable floure, &c. ———

———— Above all flouris in the mede

Than love I most those flouris white and rede  
 Such that men call in Daisies in our Town.

Chaucer is perhaps the first that takes notice of the Horologium Floræ or opening and shutting of flowers at a particular time of the day.

———— She that is of all flouris the floure,  
 Fullfilled of all virtue and honoure;  
 And ever alike fair and fresh of hewe,  
 As well in winter as in summer newe,  
 As soon as ever the Sunne ginneth West  
 To sene this floure, how it will go to rest,  
 For fear of night so hateth she darknesse  
 Her chere is plainly spread in the brightnesse  
 of the Sunne. ———

Well by reason men it calle maie  
 The Däisse, or else the Eye of the Daie  
 And at the last there tho began anon  
 A Lady for to sing right womanly  
 A Bargonet in praising the Däisse  
 For as methought among her notis swete  
 She said *Si douce est la Margarete*

Retuned by Dryden in his own numbers:

And then the Band of Flutes began to play,  
 To which a Lady sung a Virelay;  
 And still at every close she would repeat  
 The Burden of the Song the *Daisy is so sweet*  
*The Daisy is so sweet* when she begun  
 The troops of Knights and Dames continued on  
 The Comfort and the voice so charm'd my Ear  
 And sooth'd my Soul that it was Heaven to hear.

Etymologists agree with the Old Bard in his derivation of the Daisy, viz. Days Eye. Under the French name Margarete it is probable a compliment was intended to some lady, but Critics are not agreed who this lady was.

Like many other flowers the Daisy becomes double by culture, and frequently *proliferous*, in this state it is called the *Hen and Chicken* Daisy.













*Viola odorata.*



# VIOLA ODORATA. SWEET VIOLET.

VIOLA *Linnaei Gen. Pl.* SYNGENESIA MONOGAMIA.

*Calyx* pentaphyllus. *Corolla* pentapetala, irregularis, postice cornuta. *Capsula* supera, trivalvis, unilocularis.

*Raii Syn. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA *odorata* acaulis, foliis cordatis, stolonibus reptantibus, bractæis supra medium pedunculi.

VIOLA *odorata*, acaulis, foliis cordatis, stolonibus reptantibus. *Linn. Syst. Vegetab.* p. 668.

VIOLA acaulis stolonifera, foliis cordatis, *Haller hist. helv. n.* 558

VIOLA *odorata*, *Scopoli Fl. Carniol. n.* 1097.

VIOLA *martia* purpurea flore simplici odor. *Baubin Pin. p.* 199. *martia* alba. *p.* 199.

VIOLA *nigra* five *purpurea*. *Ger. emac.* 550.

VIOLA *simplex* *martia*. *Parkinson 755.* *Raii Syn. p.* 364. Purple Sweet Violet, and White Sweet-scented Violet. *Oeder Fl. Dan. icon.* 309.

**RADIX** perennis, fibrosa, albida, in senescente plantâ basi petiolorum quotannis relicta pars superior radices tuberculosa evadit, et supra terram eminet; e sinu horum nodorum nascuntur stolones, qui humi repant, et foliis instruuntur stipulisque ejusdem formæ ac illæ quæ ad basin plantæ inveniuntur.

**FOLIA** subrotundo-cordata, crenata, superne glabra, inferne hirsutula, junioribus involutis.

**STIPULÆ** radicales, ovato-lanceolatæ, membranaceæ, serratæ, dentibus glanduliferis.

**PEDUNCULI** radicales, infra Bractæas quadrangulares, supra Bractæas dorso canaliculati, apice incurvati, uniflori.

**BRACTEÆ** duæ, lanceolatæ, plerumque oppositæ, appressæ, supra medium pedunculi.

**CALYX**: PERIANTHIUM pentaphyllum, persistens, foliolis oblongo-ovatis, obtusis, e viridi purpurascens, fig. 1.

**COROLLA** pentapetala, irregularis, violacea, odorata, petalum infimum Nectario corniculato, obtusiusculo, apice compresso instructum, Petala lateralialia prope basin barbata, fig. 2.

**STAMINA**: FILAMENTA quinque brevissima ægre distinguenda: ANTHERÆ flavescentes, biloculares, vix connexæ, membranâ ovato-acuta aurantiaca terminatæ; e parte posteriori duarum Antherarum exit Nectariumque intrat appendicula viridis, linearis, compressa, fig. 5. 4. 3.

**PISTILLUM**: GERMEN subrotundum; STYLUS basi tenuior et paululum tortuosus; STIGMA uncinatum, Antheris paulo longius, fig. 6, 7.

**PERICARPIUM** priusquam dehiscit, subrotundo-triangulari, purpurascens, villosum; trivalve valvulis subrotundis concavis, fig. 8.

**SEMINA** plurima, rotunda, nitida, straminea, appendiculata, fig. 9.

**ROOT** perennial, fibrous and whitish; in old plants the upper part of the root becomes knobby, and appears above ground, the knots or knobs being formed from the bottoms of the foot-stalks of the leaves which are yearly left; from the bottoms of these knobs spring the stolones or shoots which creep on the ground, and are furnished with leaves and the same kind of Stipulæ which are observable at the bottom of the plant.

**LEAVES** heart-shaped and somewhat round at the tip, crenated, on the upper side smooth and shining; underneath slightly hairy, when young rolled in at the edges.

**STIPULÆ** springing from the root, ovato-lanceolate, membranous, serrated at the edges, each serrature or tooth terminating in a minute gland.

**PEDUNCLES** springing from the root, below the Bractææ quadrangular, above the Bractææ grooved on the upper side, at top incurvated, supporting one flower.

**BRACTEÆ** two, lanceolate, generally opposite to each other, pressed to the stalk, and placed above the middle of the Peduncle.

**CALYX**: a PERIANTHIUM of five leaves, continuing, each leaf of an oblong oval shape, obtuse at the tip, and of a greenish purple colour, fig. 1.

**COROLLA**: of five PETALS, irregular, of a bluish purple colour and sweet smell, the lowermost terminating in a blunt horned NECTARIUM, a little flattened at the extremity, the two side Petals bearded near the base, fig. 2.

**STAMINA**: five FILAMENTS so short as hardly to be distinguished; ANTHERÆ yellowish, bilocular, scarcely connected together, terminated by an oval-pointed, orange-coloured membrane; from the back of two of the Antheræ, springs a slender, flat, greenish appendage, which enters the Nectarium, fig. 5, 4, 3.

**PISTILLUM**: GERMEN roundish; STYLE slenderest at bottom and a little twisted; STIGMA hooked, and a little longer than the Antheræ, fig. 6, 7.

**SEED-VESSEL**, before it bursts, roundish, rather approaching to triangular, of a purplish colour, and villous appearance, splitting into three roundish hollow valves, fig. 8.

**SEEDS** several, round, shining, of a straw colour, terminated by a little appendage, fig. 9.

The *Viola odorata* delights to grow under warm hedges, particularly near Woods; if the Spring be favourable, it is generally in full bloom in the month of March, and towards the latter end of Summer ripens its seeds. A variety of this plant frequently occurs with a white flower, not inferior in its agreeable scent to the blue one; and sometimes this plant is found double, in which state it is often introduced into Gardens, and being furnished with abundance of creeping shoots, it is by means of these propagated with the utmost facility.

This species of Violet bears a considerable resemblance to the *Viola hirta*, the mode of distinguishing them we shall point out when we describe the latter.

A syrup made from the flowers is usually kept in the shop, and frequently given to children where a gentle laxative is required: it is likewise in use as a test to try acid and alkaline substances.

The



The seeds are said by Authors to possess a diuretic quality, and hence the powder of them has been recommended in the stone and gravel.

The great BACON, who frequently descended from his sublimer studies, and amused himself with enquiries into the qualities and properties of plants, has left us a curious method of preserving the scent of this flower.

*"Take Violets, and infuse a good pugil in a quart of Vineger, let them stand three quarters of an hour, and take them forth, and refresh the infusion with like quantity of Violets seven times; and it will make a Vineger so fresh of the flower, as if a twelve moneth after it be brought you in a saucer, you shall smell it before it come at you."*

*"Note. It smelleth more perfectly of the flower a good while after than at the first."*

The illustrious prescriber has given no directions concerning the use of this preparation, but it appears to us to be one of the most grateful preservatives against infection, especially if the strongest distilled vinegar which has been drawn over in glass, be made use of.

The Violet has been much complimented by the antient Poets; and our SHAKESPEARE gives it a conspicuous place in his catalogue of flowers.

*"Violets dim,  
But sweeter than the lids of JUNO's eyes,  
Or CYTHEREA's breath."*

The Commentators have not been successful in informing us how the "*lids of JUNO's eyes*" bear any resemblance to "*Violets dim*," not recollecting that *ιοβλεφαρος* (*having violet eyelids*) was a complimentary title with the Greek poets. This epithet alludes to a well known custom which still prevails in Greece, of colouring the eye lids blue. \**"A Grecian girl is painted blue round the eyes; and the insides of the sockets, with the edges on which the lashes grow, are tinged with black: For colouring the lashes and socket of the eye, they throw incense or Gum of Labdanum on some coals of fire, intercept the smoke which ascends, with a plate, and collect the foot: This I saw applied; a girl sitting cross-legged, as usual, on a sofa, and closing one of her eyes, took the two lashes between the fore finger and thumb of her left hand, pulling them forward, and then thrusting in, at the external corner, a bodkin which has been immersed in the foot, and extracting it again, the particles before adhering to it remained within, and were presently ranged round the organ, serving as a foil to its lustre, besides contributing, as they say, to its health, and increasing its apparent magnitude."* CHANDLER's *Travels into Greece*.

Altho' the poet of nature has been rather obscure on this subject, where he copies the ancients; he makes ample amends when he gives us the genuine effusions of his own imagination. With what precision and delicacy does he describe the soft enchantment of plaintive music, as resembling the sweetness of this flower; illustrating in a beautiful simile the object of one sense by that of another!

*"That strain again;—it had a dying fall;  
"Oh! it came o'er my ear, like the sweet south,  
"That breathes upon a bank of violets,  
"Stealing and giving odour!"*

\*A Greek poet supposed to be a Christian, from the severity of his manners and purity of his instructions, forbids this custom of painting the eyelids, in the rules of conduct which he addresses to young women,

*"Μηδε μελαινε τριστιν υπο βλεφαροισιν' οπωπας."*

NAUMACHIUS.

It is probable that the Greeks borrowed this fashion from their Asiatic neighbours; JEZEBEL, a native of Zidon, put her eyes in painting, as the translators tell us in the margin of our bible; the Prophets also allude to and censure this custom, see *Jeremiah* iv. 30. *Ezekiel* xxiii. 40.







*Viola hirta.*



# VIOLA HIRTA. HAIRY VIOLET.

VIOLA Linnæi Gen. Pl. SYNGENESIA MONOGAMIA.

*Calyx* pentaphyllus: *Corolla* pentapetala, irregularis, postice cornuta. *Capsula* supra, trivalvis, unilocularis.

*Raii Synop. Gen.* 24. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA *hirta* acaulis, foliis petiolisque hirsutis, bracteis infra medium pedunculi.

VIOLA *hirta* acaulis, foliis cordatis piloso hispidis. Linn. Syst. Vegetab. p. 668.

VIOLA acaulis, foliis cordatis hispidis. Haller hist. helv. n. 559.

VIOLA *hirta* Hudson Fl. Angl. p. 330.

VIOLA *martia* major hirsuta inodora. Hist. ox. II. 475.

VIOLA *trachelii* folio vulgo. Raii hist. 1051. Syn. p. 365. Violet with Throat-wort leaves.

So great is the similarity betwixt this Species and the *Viola odorata*, that to describe it in the same manner as I have that plant, would be to repeat nearly the same words. To avoid this sameness of expression, I shall adopt a description in the way of contrast, which will enable me to point out the differences of each in a manner more striking, and I hope equally satisfactory to my botanic readers.

I would first premise, that as it is my greatest wish to clear up every difficulty respecting the species and varieties of those plants which come properly before me, so I have with that view, not only examined this plant with the greatest attention, where it has grown wild, but also cultivated it in my garden along with the *odorata*, and hence, seeing and noticing its mode of growth throughout the year, have perhaps been able to obtain a clearer idea of its history, than those who may have viewed it at one particular season only.

The *Viola odorata* throws out from the upper part of its root a number of stolones or shoots, which trail on the ground, and quickly take root at the joints, whereby it propagates itself very fast: the *hirta* likewise encreases itself by throwing out young stalks; but then they are not procumbent, nor do they ever strike root as those of the *odorata* do; hence the *hirta* does not encrease so fast, nor spread so wide. Although LINNÆUS makes a considerable difference in the form of the roots of these plants, yet from what I have observed, this difference proceeds chiefly from the age of the roots; for in both species, the older they are, the more full are they of tubercles or cicatrices, formed by the annual shedding of the leaves.

The radical *Stipulae* are lanceolate and serrated in both species.

The *footstalks* of the leaves form perhaps the most obvious difference; in the *odorata* they are nearly smooth; in the *hirta* they are very hirsute, and this hairiness puts on a kind of silvery appearance in the young plants of this species, where it is remarkably conspicuous.

In the leaves themselves the difference is for the most part, not very remarkable, for in both species they are somewhat hirsute underneath; those of the *hirta* however, are sometimes remarkably so, from growing in particular soils or situations: the leaves of the *odorata* have a more glossy appearance on their upper surface, but this scarce discriminates them unless they are contrasted. With respect to shape and size likewise, the difference is not very obvious; both species when in bloom are small, compared with the size to which they afterwards grow. In make they are somewhat longer, and not so perfectly heart-shaped.

In the specimens of this plant which I have examined, I could not perceive that sensible difference which LINNÆUS notices (*vid. Mantiss. Plant. alt. p. 483.*) in the shape of the *Peduncle* above the *Bractea*; in both species they certainly are channeled at the back: in the situation of the *Bractea*, however, there is a very considerable difference, which does not appear to have been taken notice of, and this seemed to me to be so obvious a character, that I trust it will apologize for my altering its specific description: in the *odorata*, the *Bractea* are placed above the middle of the *Scapus*, or *Peduncle*; in the *hirta*, they are situate below it: but there is one caution necessary to be observed respecting this character, viz. that the *Bractea* of each be observed, just when the flowers are fully expanded, for as that part of the *Scapus*, which is situated above the *Bractea*, grows considerably longer by the time that the flowers of the *odorata* are faded, so they should both be examined when of an equal age, otherwise this distinction will not appear so remarkable.

The flowers of the *hirta*, in general, appear about a week later than those of the *odorata*, are of a paler blue colour, and entirely want that sweet fragrance which renders the *odorata* so grateful a harbinger of the Spring. In the other parts of the fructification, these plants are very similar to each other; but there is one circumstance respecting the manner in which they produce and disperse their seeds, which may not be generally known.

LINNÆUS in his *Flora Suecica*, n. 789, observes that the flowers which the *Viola mirabilis* first produces from the root, are furnished with Petals, yet that these for the most part are barren, while those which blow later the same Spring, and rise from the stalk, although destitute of Petals, produce perfect seed: and JACQUIN, in his excellent work the *Flora Austriaca*, where this plant is figured, (*Vol. I. pl. 19.*) confirms the truth of LINNÆUS's observations, and says that the barrenness of those flowers appeared to arise from a deficiency of the Stylus. LINNÆUS in his valuable treatise above quoted, observes likewise, that the flowers of the *Viola montana*, which appear first, are furnished with Petals, but that those which are afterwards produced have no Petals, yet nevertheless are fertile; and this I find, on repeated examination, to be the case with the *Viola odorata* and *hirta*, but more particularly the latter: they differ from the *Viola mirabilis* in this respect, that all the flowers which are formed, both with and without Petals, produce perfect seed. I was led to this discovery from observing a single plant of the *Viola hirta*, to produce about the middle of Summer, ten or twelve capsules of ripe seeds, on which I was certain in the Spring no more than two or three blossoms had appeared: the next Spring I discovered, that besides those perfect blossoms which first spring up, this plant continues for a month or more to throw out new flowers, which are entirely destitute of Petals, or have only the rudiments of them which never appear beyond the Calyx; but all the other parts of the fructification are perfect. The capsules in both these species, when they become nearly ripe, lay close to the ground, so that when they burst, the seeds have an easy access into the earth.

There is some difference with respect to the soil and situation in which these two plants delight; the *odorata* grows very generally under warm hedges, and in woods; the other appears to be pretty much confined to a chalky soil, and often occurs in more exposed situations, in the fields and on the banks about *Charlton*, it may be found in tolerable abundance.



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*Viola tricolor.*



# VIOLA TRICOLOR. WILD PANSIE.

VIOLA *Linnaei* Gen. Pl. SYNGENESIA MONOGAMIA.

*Raii Synop. Gen.* 20. HERBÆ PENTAPETALÆ VASCULIFERÆ.

VIOLA tricolor, caule triquetro diffuso, foliis oblongis incisis, stipulis pinnatifidis. *Linn. Syst. Vegetab. p.* 668: *Fl. Suecic.* 307.

VIOLA caule diffuso, ramoso, foliis ovatis dentatis, flore calyce paulo majori. *Haller. hist. tom: i. n. 569.*

VIOLA bicolor arvensis. *C. Bauhin. pin.* 200.

VIOLA tricolor sylvestris. *Parkinson.* 755.

JACEA bicolor frugum et hortorum vitium. *I. Bauhin. III.* 548: *Raii Syn. p.* 336. *ii.* *Hudson. Fl. Angl. p.* 331: *Scopoli. Fl. Carniol. p.* 183.

RADIX simplex, fibrosa.

CAULIS palmaris et ultra, plerumque diffusus, ramosus, angulosus, ad basin fordide purpureus; rami alterni.

FOLIA longe petiolata, elliptica, crenata, inferioribus sæpe minoribus, subrotundis, superioribus angustis, subdentatis.

STIPULÆ ad basin laciniato-pinnatifidæ, laciniis linearibus, extrema oblonga, dentata.

PEDUNCULI subquadrangulares, alterni, apice incurvati, dorso canaliculati, stipulis duobus parvis, membranaceis, prope florem, instructi.

CALYX: PERIANTHIUM pentaphyllum, persistens, foliolis acutis, tria superiora minora, ad basin æqualia, suprema erecta, petalis supremis longiora, duo inferiora apice et basi cæteris longiora, basique latiora, petalis infimis breviora, *fig. 2.*

COROLLA pentapetalâ, irregularis, duo superiora subrotunda, integerrima, albida, deorsum spectantia; lateralium lamina ovata, obtusa, ad basin barbata, lineaque brevi purpurea notata; infimum latum emarginatum, ad basin flavum, lineis quinque purpureis pictum, CALCARE SËU NECTARIO

NECTARIUM. terminatum, longitudine calycis, apice violaceo, obtuso, *fig. 3, 4, 5, 6.*

STAMINA: FILAMENTA quinque, brevissima; ANTHERÆ albidæ, vix coadunatæ, biloculares, membranâ crocæ terminatæ, e dubois inferioribus exeunt, nectariumque intrant, appendiculæ duæ lineares, *fig. 7, 8, 9, 10.*

PISTILLUM: GERMEN subconicum, *fig. 11*; STYLUS ad basin tortuosus, staminibus longior, *fig. 12*; STIGMA capitatum, oblique perforatum, persistens, *fig. 13.*

PERICARPIUM: CAPSULA ovata, glabra, unilocularis, trivalvis, *fig. 14, 15.*

SEMINA plurima, ovata, fusca, nitida, appendiculata, valvis seriati affixa, *fig. 15.*

ROOT simple and fibrous.

STALK about four or six inches high, generally spreading, branched, angular, at bottom of a dull purple colour; the branches alternate.

LEAVES placed on long foot-stalks, elliptical, crenated, the lowermost often smaller and roundish, the uppermost narrow and slightly indented.

STIPULÆ at bottom jagged and pinnatifid, the laciniæ or jags linear, that which terminates the Stipula oblong and indented.

FOOT-STALKS of the flowers, nearly quadrangular, alternate, bent in at top, channelled on the back, and furnished with two small membranous Stipulæ near the flower.

CALYX: a PERIANTHIUM of five leaves and continuing, the leaves sharply pointed, the three upper ones smallest, and equal at bottom, the uppermost upright and longer than the uppermost petals, the two under leaves longer both at bottom and top than the rest, and at bottom likewise broader, shorter than the lowermost petals, *fig. 2.*

COROLLA pentapetalous and irregular, the two uppermost petals roundish, entire, and reflected; the lamina or broad part of the side petals oval, obtuse, bearded at bottom, and marked with a short purple line; the lowermost petal broad, emarginate, yellow at bottom, and streaked with five purple lines, and terminated by a

NECTARY. SPUR or NECTARY the length of the Calyx, with a blueish and blunt point, *fig. 3, 4, 5, 6.*

STAMINA: five FILAMENTS very short; ANTHERÆ whitish, scarcely united, bilocular, terminated by a saffron coloured membrane; from the two lowermost two linear appendages go off and enter the Nectary, *fig. 7, 8, 9, 10.*

PISTILLUM: GERMEN somewhat conical, *fig. 11*; STYLE twisted at bottom and longer than the Stamina, *fig. 12*; STIGMA forming a little head, obliquely perforated and continuing, *fig. 13.*

SEED-VESSEL: an oval smooth CAPSULE of one cavity and three valves, *fig. 14, 15.*

SEEDS numerous, oval, brown and shining, with a button to each, affixed in rows to the inside of the valves, *fig. 15.*

Few plants have acquired a greater variety of names than the *Viola Tricolor*; in different Authors and different counties we find the following, viz. *Wild Pansie, Herb Trinity, Hearts ease, Three faces under a hood, Cull me to you, Love in Idleness, &c.* what has occasioned some of these is the different appearance it puts on from cultivation and change of soil; in a garden there are few flowers that can boast a greater variety or richness of colour, few that continue longer in blossom, or are cultivated with more ease; it is probable that the large yellow Violet, *Viola lutea*, is no more than a variety of this species.

The Pansie in its wild state occurs very frequently in cultivated fields, and blossoms through most of the summer months. It is so hardy as to appear in Lapland amongst the few other plants which ornament the wastes of that Country during its short summer. It is eaten by Kine and Goats.

The difference in the form of the Stigma seems to divide the plants of this Genus into two families, viz. *Pansies* and *Violets*, in the former the Stigma is round, with a remarkable hole on one side of it, in the latter it is hooked.

Linnaeus remarks the black lines which sometimes appear on the Petals, MILTON had observed the same, "*Pansies freakt with jet*" In a poor soil the purple and yellow in the bloom of this flower frequently become very faint, and sometimes fade into a perfect white, this variation in colour gives a propriety to the Metamorphosis of this flower in which SHAKESPEARE pays an elegant compliment to his royal mistress.

That very time I saw, (but thou could'st not)  
Flying between the cold Moon and the Earth,  
Cupid all-arm'd: a certain aim he took,  
At a fair Vestal, throned by the west,  
And loos'd his love-shaft smartly from his bow,  
As it should pierce a hundred thousand hearts:  
But I might see young Cupid's fiery shaft  
Quench'd in the chaste beams of the watery moon,  
And the imperial votress passed on,  
In maiden meditation fancy-free.  
Yet mark'd I where the bolt of Cupid fell,  
It fell upon a little western flower;  
Before, milk-white; now purple with Love's wound,  
And Maidens call it Love in Idleness.













# OPHRYS APIFERA. BEE ORCHIS.

OPHRYS. *Linn. Gen. Pl. ed. 3.* GYNANDRIA DIANDRIA.

ORCHIS. *Raii Synopsis, ed. 3.* 379. HERBÆ BULBOSIS AFFINES.

OPHRYS *apifera* bulbis subrotundis, scapo folioso, nectarii labio quinquelobo; lobis subtus inflexis.  
*Hudson. Fl. Angl. 340.*

ORCHIS, radicibus subrotundis, labello holosericeo, emarginato, appendiculato. *Haller. hist. vol. 2.* 1266.  
*tab. 24.* Duas species *apiferam* et *musciferam* HUDSONIS et HALLERI sub uno nomine  
*Insectiferæ* conjungit CL. LINNÆUS. *Fuschii icon. 560.* *Baubin pin. 83.* *Gerard. emac. 212.*

RADIX, Bulbi duo, subrotundi, inæquales, radiculis longis vix fibrosis supra instructi.

CAULIS semipedalis aut pedalis, teres, *fig. 1.* foliosus.

FOLIA vaginantia, ovato-lanceolata, subtus subargentea, fibris lineata, sæpe mutilata et fusca.

BRACTEÆ magnæ, vaginantes, virides, longitudine floris.

FLORES a tribus ad sex, spicati.

COROLLA: PETALA quinque, tria exteriora reliquis majora, ovata, concava, reflexa, purpurascens, ferioribus pallidioribus, subcarinata, carinâ viridi, *fig. 2*; duo interiora exterioribus quadruplo minora, angusta, *hirsuta, postice canaliculata, ad basin latiora, antrorsum extantia.*

NECTARIUM Labellum amplum, leniter convexum, suborbiculatum, fusco-sericeum, maculis flavis frequenter variegatum, quinquelobum, *lobis inflexis, fig. 3*; lateralibus subtriangularibus, *hirsutis, fig. 4*; medio anteriorum productiore, apice recurvato flavo, *fig. 5*; machina staminum five STYLUS longa, subrecta, *apice incurvata et sursum recurvata, fig. 11*, antice bilocularis, loculis apertis, *fig. 12*, angustis, marginibus albis, membranaceis, *fig. 13.*

STAMINA: FILAMENTA duo, *fig. 6*, e squamula nectarifera ad basin Styli exeuntia, nutantia, Stigmati frequenter adhærentia, *fig. 8*, basi glandula five globulo albo pellucido instructa, *fig. 7*; ANTHERÆ subrotundæ, flavæ *fig. 9.*

PISTILLUM: GERMEN oblongum, hexangulare, angulis obtusis *rectis*; STIGMA, *fig. 10*, melleo liquore obductum, cui particulæ Antherarum frequenter adhærent.

PERICARPIUM: CAPSULA oblonga, fusca, uncialis, *fig. 14*, unilocularis, *fig. 16*, trivalvis, valvis carinatis, *fig. 15*

SEMINA plurima, minuta, oblonga, utraque extremitate membranacea, pellucida; reticulata, *fig. 18*, lente aucta, interiori parti carinæ longitudinaliter affixa, *fig. 17.*

ROOT, two roundish unequal bulbs, furnished at top with a few small longish fibres, but little branched.

STALK from half a foot to a foot high, round, *fig. 1.* leafy.

LEAVES embracing the stalk, of an oval pointed shape, underneath silvery, with linear fibres, frequently imperfect, and of a brown colour.

FLORAL LEAVES large, in the form of a sheath, green, and of equal length with the flowers.

FLOWERS from three to six, growing in a spike:

COROLLA: five PETALS, the three exterior larger than the rest, oval, concave, turning back, purplish, somewhat keel-shaped, the keel green, *fig. 2*; the latter flowering palest: the two interior four times smaller than the others, narrow, *hairy, hollow behind, broadest at bottom, and projecting forward.*

NECTARY. The Lip of the Nectary large, somewhat convex, roundish, of a silky brown colour, frequently variegated with yellow spots; having five lobes, *the lobes bending underneath, fig. 3*; *the two side lobes somewhat triangular and hairy, fig. 4*; the middle of the anterior running out to a point, which turns back, and is of a yellow colour, *fig. 5*; the STYLE, which in this plant supports the Stamina, long, upright, *at the tip bending downwards, and again upwards, fig. 11*, anteriorly, having two cavities which are open and narrow, *fig. 11*, the edges white and membranous, *fig. 13.*

STAMINA: two FILAMENTS, *fig. 6*, arising from the bottom of the Style out of a nectariferous scale, hanging down, frequently adhering to the Stigma, *fig. 8*, furnished at bottom with a small transparent gland or globule, *fig. 7*; the ANTHERÆ roundish and yellow, *fig. 9.*

PISTILLUM: the GERMEN oblong, having six angles, the angles obtuse, *not twisted*; the STIGMA, *fig. 10*, covered with a viscid substance like honey, to which small particles of the Antheræ frequently adhere.

SEED-VESSEL: a CAPSULE about an inch in length, oblong, brown, *fig. 14*, of one cavity, *fig. 16*, and three valves, the valves keel-shaped, *fig. 15.*

SEEDS numerous, small, oblong; at each end membranous, transparent, and reticulated, *fig. 18*, magnified, affixed lengthwise to the inside of the keel of each valve, *fig. 17.*

Flowers in the Months of JUNE and JULY, the Seed is ripe the latter end of AUGUST.

Grows generally on chalky ground near woods, and sometimes in meadows; is become so rare about London, as scarcely to be found with any certainty. Mr. ALCHORNE informs me he has frequently gathered it in the pits behind Charlton-Church, and in the woods near Chiffelhurst in Kent: but it is often met with in plenty at a greater distance from town.

The root appears to possess the same virtues with those of the Orchis from which Salop is made, but being much smaller, is not worth cultivating on that account. The great resemblance which the flower bears to a Bee, makes it much sought after by Florists, whose curiosity indeed, often prompts them to exceed the bounds of moderation, rooting up all they find, without leaving a single specimen to cheer the heart of the Student in his botanic excursions. The best time of transplanting them is when they are in flower. This, with most of the other Orchis's, was cultivated with the greatest success by the late PETER COLLINSON, Esq; (whose memory will always be revered by every Botanist) in his garden at Mill-hill.—His method was to place them in a soil and situation as natural to them as possible, and to suffer the grass and herbage to grow round them.

I have not yet heard of their being propagated by seed; it is to be wished that some intelligent Gardiner would exert himself in making some experiments to raise them in this way.

Botanists have often been at a loss in classing many plants, to find some resemblance by which they might distinguish their particular species; but in this plant the case is otherwise, the flower is so like the insect that gives it its name, that it strikes every beholder with admiration; what useful purpose is intended by it, we do not at present know: Some future Observer may perhaps discover, for they who will examine Nature herself, "have much to see."









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*Asplenium Scotopendrium.*



# ASPLENIUM SCOLOPENDRIUM. HARTS-TONGUE.

ASPLENIUM *Linnaei. Gen. Pl. CRYPTOGAMIA FILICES.*

*Raii. Synop. Gen. HERBÆ CAPILLARES ET AFFINES.*

ASPLENIUM frondibus simplicibus cordato-lingulatis integerrimis, stipitibus hirsutis. *Lin. Sp. Pl. 1537.*

ASPLENIUM Frondes lanceolatae, acuminatae, basi cordatae, integerrimae, medio latiores. *Scopoli. Fl. Carn.*

ASPLENIUM petiolis hirsutis, folio longe lineari-lanceolato, integerrimo, circa petiolum excisso.

*Haller. Hist. n. 1665.*

HEMIONITIS. *Fuschii. Icon. 294.*

PHYLLITIS vulgaris. *Clus. hist.*

SCOLOPENDRIA vulgaris Tragi.

LINGUA CERVINA officinarum. *Bauhin. Pin. 350. Gerard. emac. 1138. Parkinson. 1046. Raii. Synop. 116. Hudson. Fl. Angl. 384.*

RADIX perennis, fibrosissima, fusca, fibris fibrillis tenuissimis instructis.

STIPITES plures, pilosi.

FRONDES cordato-lingulatae, longitudine pedales, latitudine fere bipollicares, glaberrimae, margine undulato, nervo medio inferne piloso.

FRUCTIFICATIO. Glomera linearia, obliqua, in pagina inferiore frondis nervo medio utrinque seriatim disposita, fig. 1, 2, 3.

INVOLUCRUM. Squama linearis, bivalvis, longitudinaliter dehiscens, fig. 2.

CAPSULÆ numerosae, subglobosae, uniloculares, pedicellatae, annulo elastico cinctae, fig. 5, 7, lente auctae.

SEMINA numerosa, subrotunda, minutissima, fig. 7, lente valde auctae, fig. 8.

ROOT perennial, exceedingly fibrous, the fibres brown, and furnished with other fibres, which are very minute.

STALKS numerous and mossy, or hairy.

LEAVES tongue-shaped, at bottom cordate, about a foot in length, and one inch and a half in breadth, of a bright yellowish green colour, and shining, the margin a little waved, and the midrib on the under side mossy.

FRUCTIFICATION placed in oblique lines on the under side of the leaf, on each side of the midrib, fig. 1, 2, 3.

INVOLUCRUM a linear membrane of case, of two valves, opening longitudinally, fig. 2.

CAPSULES numerous, standing on foot-stalks, nearly globular, surrounded by an elastic ring, and having one cavity, as they appear magnified, fig. 5, 7.

SEEDS roundish, very numerous and minute, fig. 7, as they appear through a great magnifier, fig. 8.

THIS is one of those plants which some botanic writers have called *Epiphyllisperma*, from producing their seeds on the back of the leaves. LINNÆUS includes it in his class *Cryptogamia*, as neither stamina nor pistilla have yet been discovered on it. The first appearance of fructification that we observe, are some little bags or cases, of a yellowish or whitish green colour, placed in rows on the under side of the leaves, fig. 1, on opening of which, almost as soon as they become visible, we find the capsules or seed-vessels, fig. 2, very numerous, standing upright, and close together: at this time they appear of a green colour; as they approach towards maturity, they change this for a deep brown: the cases then open lengthways in the middle, the two sides, by the protrusion of the capsules, are turned quite back, and wholly disappear, fig. 3. This membranous substance or case, may be considered as similar to the *calyptra* in Mosses, or *calyx* in other plants, and serves to secure and defend the tender seed and capsules, which being now become ripe, exhibit a most striking proof of that wisdom which the benevolent Author of Nature manifests in all the works of his creation.

Each capsule or seed-vessel, consists of three parts; first the foot-stalk, fig. 4, which supports and connects them to the leaf; secondly, the jointed spring, fig. 5, which nearly surrounds the third part, or cavity containing the seeds, fig. 6, 7.

The seeds being ripe, the cavity containing them is forced open by the elasticity of the jointed spring, and the seeds scattered and thrown to a considerable distance; one half of the cavity remains connected to one end of the spring, and the other half to the other end, fig. 7.

Some of the capsules being sooner ripe than others, discharge their seed sooner, so that it is a considerable time before they all become empty. On applying an entire row before the microscope for the first time, I was immediately struck with the motion that appeared in them, and afterwards found that the warmth of my breath occasioned a great number of the capsules to keep continually discharging their seeds, so as almost to give them the appearance of something alive. The closeness of the capsules one to another, affording me but a confused idea of their structure, I separated them with the point of a penknife, from their connection to the leaf, and again placed them before the microscope, which then gave me a very different, and, after a little examination, a very clear idea of their structure; many appeared with the seeds discharged, several in the act of discharging them, and some as yet entire: it frequently happened, that while I was intently looking at one which I expected would open, at the instant of discharging, it would be carried out of my sight by the strength and elasticity of the spring; and it was not till after repeated trials, that I was able clearly to observe the manner of their opening. The seeds are very numerous, and scarcely visible to the naked eye: when magnified, they appear of a roundish figure, and full of little projecting points.

Both GREW and SWAMMERDAM have given figures on this subject; but those of SWAMMERDAM are by much the most natural. As a great deal of the satisfaction in viewing objects of this kind, depends on the kind, as well as goodness of the microscope, that none of my readers may be disappointed in the experiments they may make with this entertaining instrument, I may inform them, that the microscope I make use of, is that which is sold in the shops by the name of ELLIS'S *Aquatic Microscope*, and which is made for this purpose, with particular care and accuracy, by GEORGE ADAMS of Fleet-Street, Mathematical Instrument Maker to his Majesty.

This plant may be found in seed from September to November, in shady lanes and on walls, and is frequently found growing within-side of old wells. It is met with but rarely about town, though cultivated in most of our botanic gardens. The leaves are subject, from a richness of soil, to be much divided at their extremities, and very much curled at the edges.

It is an officinal plant, and is recommended by RAY, from his own experience, as a good medicine against convulsive disorders.













# POLYPODIUM VULGARE. COMMON POLYPODY.

POLYPODIUM *Linnaei Gen. Pl.* CRYPTOGAMIA FILICES.

*Fructific.* in punctis subrotundis sparsis per discum frondis:

*Raii Syn.* HERBÆ CAPILLARES ET AFFINES.

POLYPODIUM *vulgare* frondibus pinnatifidis: pinnis oblongis subserratis obtusis. *Linn. Syst. Vegetab.* p. 786. *Fl. Suecic.* p. 373.

POLYPODIUM foliis pinnatis, lanceolatis, radice squamata. *Haller hist. n.* 1696.

POLYPODIUM *vulgare.* *Scopoli Fl. Carniol. n.* 1266.

POLYPODIUM *vulgare.* *Baubin. pin.* 359.

POLYPODIUM *vulgare.* *Parkinson* 1039.

POLYPODIUM *Gerard emac.* 1138. *Raii Syn. p.* 117, Polypody. *Hudson Fl. Angl. p.* 387.

**RADIX** oblique sub terræ superficie reptat, fibras suas ex tuberculis quibus plurimis scatet demittens, ad crassitudinem fere minimi digiti accedens, squamis fuscis tecta, colore foris buxæa, intus fere herbacea, sapore dulci, tandem acerbior et adstringente.

**STIPITES** læves, interne fulcati.

**FRONDES** semipedales aut pedales, pinnatifidæ, pinnæ oblongæ, subserratæ, obtusæ, inferne pallidiores.

**CAPSULÆ** in acervulis, magnis, flavis, rotundis, nervo utrinque seriatim locatæ, pedicellatæ, subrotundæ, superficie granulata a feminibus protuberantibus, annulo elastico brevi instructæ, in valvulas duas dehiscentes, *fig. 2, 3, 3, 5, 6.*

**SEMINA** plurima, ovata, aut subreniformia flava, *fig. 7, 8.*

**ROOT** creeps obliquely under the surface of the earth, sending forth a number of fibres from little tubercles, which are plentifully distributed over its surface, about the thickness of the little finger, sometimes slenderer, covered with brown mossy scales, externally of a pale yellow colour, internally greenish, of a taste at first sweet, but finally sowerish and astringent.

**STALKS** smooth, grooved on the inner side.

**LEAVES** from half a foot to a foot in length, pinnatifid; the pinnæ oblong, slightly serrated, obtuse, paleish underneath.

**CAPSULES** placed in a row on each side the midrib of the leaf, in large, yellow, round dots, standing on foot stalks, of a roundish shape, with the surface granulated from the seeds protuberating, furnished with a short elastic spring, and opening into two valves, *fig. 2, 3, 4, 5, 6.*

**SEEDS** numerous, oval or somewhat kidney-shaped, of a yellow colour, *fig. 7, 8.*

IN all those plants of the *Fern Tribe* which I have hitherto had an opportunity of examining, there appears to be much the same mechanism in their parts of fructification; one of the most striking and useful of which is the elastic ring which surrounds the Capsules, by means of which they are forced open and the seeds discharged. So necessary a part one should not conceive would be wanting in any of these plants, nor will it, I believe, be found to be so: yet many Botanists, and those too of eminence, not only deny its existence, but make the want of it a character to distinguish this Genus. GLEDITCH gives us the following as part of the generic character of the *Polypodium* "*Capsule annulo destituta.*" ADANSON also gives it the same character, "*sans anneau.*" It will perhaps not be difficult to account for this mistake; and at the same time it will shew us how injurious it is to science, for Authors to take things for granted without examining for themselves. In TOURNEFORT's elegant figures of the Genera, the Capsules of the *Polypodium* are represented without any ring: on the truth of these figures it is highly probable that those Authors have relied; for had they made use of their own eyes, assisted by a small magnifier, they could not have avoided seeing what MALPIGHI long before their time delineated, though rudely, and GLEICHEN since more elegantly figured.

There is one circumstance attending this species of *Polypodium*, which however does not run through the whole of this Genus, *viz.* the want of an Involucrum or Membrane; the little dots or assemblage of Capsules are not covered with any membrane; or if there be a membrane, it is very early deciduous, and not visible when the Capsules have arrived at a tolerable degree of maturity.

This species of *Polypody* grows very common in woods and shady lanes on the old stumps of various trees; it differs much in size: sometimes it occurs on the Oak, in which case its virtue as a medicine has been more celebrated.

Its effects when taken inwardly are slightly purgative: it has been recommended in various disorders of the Viscera, in the Cachexy, swelling of the Spleen, Jaundice, obstructions of the Mesenteric Glands, Hypochondriac Disease, Cough, Asthma, &c. but it has generally been given with some other medicines.

In the present practice it is but little regarded.







*Hydrocotyle repens*





*Bryum Scoparium.*

# BRYUM SCOPARIUM. BROOM BRYUM.

BRYUM *Linnaei Gen. Pl. CRYPTOGRAMIA MUSCI.*

*Raii Syn. Gen. 3: MUSCI.*

BRYUM *scoparium*, Antheris erectiusculis, pedunculis aggregatis, foliis secundis recurvatis, caule declinato.

*Linnaei Syst. Vegetab. p. 797.*

HYPNUM foliis falcatis, heteromallis; vaginis multifloris. *Haller hist. n. 1777.*

HYPNUM *scoparium. Scopoli Fl. Carn. p. 334. DIAGN. Florescentia Hyemalis. Folia arcuata, secunda, tenuia. Setae saepe plures.*

BRYUM *scoparium*: furculo declinato, ramofo, foliis secundis, recurvatis, primordialibus plumulosis. *Necker. method. musc. p. 224.*

HYPNUM *scoparium. Weis. Cryptogam. p. 213.*

BRYUM reclinatum, foliis falcatis, scoparum effigie: *The sickle-leaf'd bending Beasom Bryum. Dillen. musc. p. 357. tab. 46. fig. 16*

BRYUM erectis capitulis angustifolium, caule reclinato. *Cat. Gifs. 222. Raii Syn. 95. Hudson Fl. Angl. p. 406.*

CAULES unciales aut biunciales et ultra, suberecti, ramofo, in denso caespite collecti, fordide rufi, infra multo tomento fusco obfiti.

FOLIA caulem inaequaliter circumstant, hinc in quibusdam locis nudiusculus relinquitur, in aliis foliis crebrioribus vestitur, praecipue ad apicem, longa, linearia, acuminata, canaliculata, fig. 1, recurvata, secunda.

PEDUNCULI unciales aut biunciales, ad basin rubicundi, erecti, ex uno latere caulium plerumque oriuntur, aliquando vero ex apice, ut plurimum solitarii, subinde vero duo ex eodem perichætio proveniunt, basi bulbillo cylindraco terminati, fig. 7, qui foliis pluribus latiusculis, pilo terminatis, acû facile separabilibus includitur, fig. 8, 9.

CAPSULÆ oblongæ et fere cylindræ, nunc erectæ, nunc paululum incurvæ, fig. 3; OPERCULUM rostratum, tenue, longitudine capsulæ et concolor, fig. 4; ORA ciliata five denticulata, fig. 5; CALYPTRA straminea, longitudine Capsulæ, postquam medio dirumpitur, basi suo capsulam arcte cingit, fig. 2; POLLEN viride, fig. 6.

STALKS from one to two inches high and more, nearly upright, branched, growing thickly together, of a dirty red colour, and covered at bottom with a dark brown wooly substance.

LEAVES: the leaves cover the stalk unequally, hence in some places it is left rather naked, in others more thickly covered with leaves, particularly towards the top, are long, linear, pointed, grooved, fig. 1, bent back, and turning all one way.

FOOT-STALKS an inch or two inches high, towards the bottom reddish, upright, arising generally from the side of the stalks, but sometimes from the top, most commonly single, but now and then two proceed from the same perichætium, furnished at bottom with a cylindrical bulb, fig. 7, which is inclosed by many broadish leaves, terminating in a hair, and easily separated by a needle, fig. 8, 9.

CAPSULES oblong and almost cylindrical, sometimes upright, sometimes a little incurvated, fig. 3; the OPERCULUM the length of the Capsule, and of the same colour, terminating in a long slender point, fig. 4; the MOUTH ciliated or furnished with little teeth, fig. 5; the CALYPTRA straw-coloured, the length of the Capsule, after bursting in the middle closely embracing the Capsule by its base, fig. 2; the POLLEN green, fig. 6.

DILLENIIUS very justly remarks, that this Moss seems to partake of the nature of both *Bryum* and *Hypnum*, but in his opinion, it comes nearest to the *Bryum*, and of the same sentiment appear to be LINNÆUS and NECKER, while HALLER, SCOPOLI, and WEIS, rank it among the *Hypnums*, and this they are led to, chiefly from the Peduncles being furnished at bottom with a kind of *Perichætium*; but DILLENIIUS very properly observes, that although the peduncle is surrounded at bottom by many *squamæ* or *folioli*, yet these are not similar to what occur in the generality of *Hypnums*, as they may with the point of a pin be easily separated from one another, and then the base of the peduncle appears to be furnished with a *bulbillus* as in most of the *Bryums*: this circumstance added to its general habit, appears fully to justify this most excellent Botanist in placing it with the *Bryums*, from whence it ought not to have been separated without more weighty reasons than have been advanced.

This Moss distinguishes itself from most others by its beautifull and lively verdure; when young it puts on a very different appearance from what it has when farther advanced, being much shorter and its leaves upright; and DILLENIIUS has sometimes remarked in this species *Stellulæ fæminææ*.

It grows in very large Clumps or Patches forming a soft and delightfull Carpet, on the banks which surround woods, at the bottom of trees, and on heaths.

It is found on some parts of Hampstead heath producing its fructifications in February and March.



# BRAYUM SCOPARIUM BRAYUM

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*Bryum Undulatum.*



# BRYUM UNDULATUM. CURLED BRYUM.

BRYUM *Linnaei. Gen. Pl. CRYPTOGAMIA MUSCI.*

*Raii Syn. Gen. 3. MUSCI.*

BRYUM (*undulatum*) antheris erectiusculis, pedunculis subfoliariis, foliis lanceolatis carinatis undulatis patentibus ferratis. *Linna. Syst. Vegetab. p. 797.*

BRYUM foliis lanceolatis ferratis, capsulis cylindricis inclinatis aristatis. *Haller. hist. tom. 2. 1823.*

BRYUM *phyllitidisfolium*: furculo simplici, foliis undato-ferrulatis, primordialibus plumulosis. *Necker. method. muscor. p. 203.* cui nomen triviale a Cl. Neckero mutaretur non video, cum analogia unde nomen ejus sumitur obscura fit, observante Cl. Scopoli.

BRYUM Phyllitidis folio rugoso acuto, capsulis incurvis. *Dillen musc. 360. tab. 46. fig. 18.*

BRYUM undulatum. *Scopoli. Fl. Carniol. n. 1301. Raii Syn. p. 95. 16. Hudson Fl. Angl. 406. Weis Cryptogam. 196. Oeder Fl. Dan. tab. 497.* nostris duplo faltem minor, cum operculo nimis recto et acuto.

SURCULI uniciales, aut biunciales, plerumque simplices, erecti, foliosi.

FOLIA lanceolata, undulata, carinata, *ferrato-aculeata*, patentia, arefactione involuta, *fig. 1.*

PEDUNCULI simplices, (duo ex eodem furculononnumquam proveniunt) furculis plerumque longiores, erecti, rubri, *fig. 2.*

CAPSULA five ANTHERA cylindracea, incurvata, lente visa substriata, primum viridis, dein ex livido-fusca, demum rufa, *fig. 3.* Basis OPERCULI hemisphaerica, rubra, apex pallida, setacea, obtusiuscula, *fig. 5.* Capsulae ORA ciliata CILIIS inflexis, *fig. 7.* ANNULUS ruber, *fig. 6.* POLLEN feu SEMEN viride, *fig. 8.*

CALYPTRA pallide fusca, acuminata, primum erecta, flexura capsulae dirumpitur, et recta manet, ba-  
sique sua a Capsula secedit, *fig. 4.*

STALKS from one to two inches high, generally simple, upright and leafy.

LEAVES lanceolate, waved, keel-shaped, *minutely and sharply serrated at the edges*, spreading, when dry curling in, *fig. 1.*

FOOT-STALKS of the fructification simple, (sometimes two proceed from the same stalk) generally longer than the stalks, upright, and of a reddish colour, *fig. 2.*

CAPSULE or ANTHERA cylindrical, incurvated, if magnified appearing somewhat striated; first green, then livid-brown, and lastly of a reddish brown colour; *fig. 3.* the bottom of the OPERCULUM hemispherical and red, the top paler, very slender and rather blunt; *fig. 5.* the MOUTH of the Capsule furnished with CILIÆ which bend inward, *fig. 7.* the ANNULUS or RING red, *fig. 6.* the POLLEN or SEED green, *fig. 8.*

CALYPTRA of a pale brown colour, and terminating in a long point, first upright, afterwards by the bending of the Capsule it becomes burst at bottom, and remains strait, with its base at some little distance from the Capsule.

THIS species of BRYUM is one of the largest we have in this Country, it produces its fructification from November to February and may be found in most of the woods near Town, as well as on the heaths, but more particularly in *Charlton Wood*, where it abounds.

As all its parts of fructification are large and distinct, the botanic Student who would investigate this difficult class of plants, cannot with this view, select any moss more proper for his purpose.











Sillem

*Bryum hornum.*

# BRYUM HORNUM. SWANS-NECK BRYUM.

MNIUM *Linnaei* Gen. Pl. CRYPTOGRAMIA MUSCI. Masculus flos pedunculatus. Feminus flos in distincto  
 sæpius individuo.

*Raii Synopsis* Gen. 3. MUSCI.

MNIUM *hornum* antheris pendulis, pedunculo curvato, furculo simplici, foliolis margine scabris. *Linnaei Syst.*  
*Vegetab.* 796.

BRYUM *hornum* furculo capitulifero ramosifurculo: stellifero simplici, primordialibus plumulosis. *Necker. Method.*  
*Musc.* p. 215.

MNIUM foliis lanceolatis, imbricatis, capsulis pendulis cylindricis obtusis. *Haller. hist. herb.* 3. p. 54.

MNIUM *hornum* ferratifolium. *Weis Cryptogam.* 149.

BRYUM antheris oblongis nutantibus, pedunculo curvato, foliolis ovatis, margine scabris. *Hudson. Fl.*  
*Angl.* p. 415.

BRYUM stellare hornum sylvarum, Capsulis magnis nutantibus. *Dillen. musc.* 402.

BRYUM nitidum capitulis majoribus reflexis, calyptra imum vergente, pediculis oblongis e cauliculis novis  
 egredientibus. *Raii Syn.* p. 102. 51.

Ad majores accedit hæc species.

CAULES unciales aut biunciales, radiculis ferrugineis,  
 valde tomentosis instructi, erecti, plerumque ra-  
 mosi, pedunculiferi et stelliferi, ad basin rubi-  
 cundi, STELLULÆ et PEDUNCULI, nunc seorsim,  
 nunc ex eadem radice proveniunt, unusque aut  
 plures Surculi e basi caulis semper fere nas-  
 cuntur.

FOLIA saturate viridia, ovato-lanceolata, subrecta, pel-  
 lucida, ad lentem minute serrata, fig. 1; nervo  
 medio distincto et in mucronem brevem educto,  
 in furculis femineis dictis apice stellatim expan-  
 sa, et paulo latiora, in junioribus angustiora et  
 cauli magis adpressa.

PEDUNCULI terminales, biunciales, rubræ, versus a-  
 picem ut recte observavit DILLENIVS instar  
 colli *olorini* incurvati.

CAPSULÆ oblongæ, tumidæ, virides, nutantes, lente  
 aucta, fig. 7; per longitudinem secta ut RE-  
 CEPTACULUM conspiciatur, fig. 9; CALYPTRA  
 longa, acuminata, caduca, fig. 6; OPERCULUM  
 breve, flavescens, fig. 8; ORA ciliata.

This species comes near to the largest size.

STALKS from one to two inches in height, furnished  
 with roots which are of a ferruginous colour,  
 and covered with a kind of woolly substance, up-  
 right and generally branched, reddish at bottom,  
 producing both PEDUNCULI and STELLULÆ,  
 which proceed sometimes from the same, some-  
 times from different roots, and one or several  
 Surculi usually spring from the bottom of the  
 stalk.

LEAVES of a deep green colour, of an oval pointed  
 shape, nearly upright, pellucid, when viewed  
 with a glass finely serrated at the edges, fig. 1;  
 the midrib distinct, and terminating in a short  
 point, on the tops of those stalk, which are con-  
 sidered as female, they are expanded like a little  
 star and somewhat broader, in the young shoots  
 they are narrower and pressed closer to the stalk.

PEDUNCLES springing from the summit of the stalks,  
 about two inches in height, bent near the top  
 like a *Swans Neck* as DILLENIVS has properly  
 observed.

CAPSULES oblong, tumid, of a green colour and droop-  
 ing, magnified, fig. 7; cut longitudinally through  
 the middle that the RECEPTACULUM may be seen,  
 fig. 9; the CALYPTRA long, pointed, and soon  
 falling off, fig. 6; the OPERCULUM short, of a  
 yellowish colour, fig. 8; the MOUTH of the  
 Capsule ciliated.

On examining with a Microscope the tops of those Stalks which are called *Stellulæ femineæ*, fig. 2, and which are  
 considered by many as the female parts of the fructification in this Moss, there appeared in the center of the  
*Stellula*, a great number of small upright bodies, or Corpuscles, of two kinds, fig. 3, the one white, pellucid, and  
 jointed; the other of a greener colour, shorter, and of an oblong oval shape, vid. fig. 4, 5. They do not ap-  
 pear to me to have any thing in their Structure, in the least similar to any of the parts of fructification in  
 plants, what their real structure and uses are, may perhaps be discovered by future observations.

This species occurs not unfrequently on moist banks in Woods, as in *Charlton Wood*, and the Woods about  
*Hampstead*, producing its Fructifications in February and March.

As the *Capitula pulverulenta* of DILLENIVS, or *Sphærophylli* as they are called by NECKER, are entirely wanting  
 in this Moss, and as the existence of those singular little heads seems very obviously to distinguish the Genus  
*Mnium*, I have chosen rather to arrange it with DILLENIVS and HUDSON among the *Bryums*, than with LINNÆUS  
 among the *Mniuns*; for if we make *Mniuns* of all the Mosses which have *Stellulæ*, we shall involve ourselves  
 in considerable difficulties: many of those *Stellulæ* are indeed very obvious, as in the present one, but in others  
 they are very obscure, so that it is difficult to say whether they exist in them or not; but if they were ob-  
 viously to be distinguished, there is not the least likeness between a *Stellula* and *Sphærophyllum*, why then unite  
 in one Genus plants which have such very different appearances? Would it not be better to consider the Mosses  
 which produce *Sphærophylli* or little balls as *Mniuns*, according to DILLENIVS, and divide the *Bryums*, if neces-  
 sary, into two families, viz. such as have obvious *Stellulæ*, and such as have none?

The name of rough *Bryum*, which Mr. HUDSON seems to have given to this Moss for brevity's sake, con-  
 veys an idea with which this *Bryum* does not seem perfectly to correspond, it having no roughness except at the  
 edges of the leaves, which are minutely serrated: I have therefore adopted DILLENIVS's name of *Swans Neck*  
*Bryum*, as being justifiable from the singular shape of the Peduncles, and being more likely to be remem-  
 bered from its striking analogy.









# HYPNUM PROLIFERUM. PROLIFEROUS HYPNUM.

HYPNUM *Linnaei Gen. Pl. CRYPTOGRAMIA MUSCI.*

*Raii Syn. Gen. 3. MUSCI.*

HYPNUM *proliferum* furculis proliferis, plano-pinnatis, pedunculis aggregatis. *Linnaei Syst. Vegetab. p. 800.*

HYPNUM ramis teretibus pinnatis, pinnulis pinnatis, foliis adpressis. *Haller. hist. 3. p. 33.*

HYPNUM filicinum, Tamarisci foliis minoribus, non splendentibus. *Dillen. p. 276. icon. 35. fig. 14.*

HYPNUM repens filicinum minus, luteo virens. *Catal Gifs. 217. Raii Synop. p. 86. n. 36. Hudson, Fl.*

*Angl. p. 422. Weis Cryptogam. p. 230.*

**CAULES** palmares ad dodrantes, repentes, hinc inde radículas fuscas exferentes, sæpe vero adeo intricate connexi ut humi serpere nequeant, foliis ovato-acuminatis, carinatis, mucronatis, sparſe tectis, *fig. 1.* horum foliolorum superficies, microscopio valde aucta granulosa apparet, *fig. 2.*

**RAMI** pulchre pinnati, deflexi, virentes, ad luteum colorem plus minusve accedentes pro ratione situs aut anni temporis, *omni splendore destituti, rachis concolor*, ad extremitatem plerumque incrassatus. RAMULI et PINNULÆ foliolis exilissimis, confertis, nudo oculo vix conspicuis imbricatim tecti; e disco rami, aut frondis, novus caulis aut furculus plerumque exfurgit, unde plantula mire extenditur ac propagatur, et hinc *Prolifer* vocatur.

**PEDUNCULI** sesquiunciales, rubri, plerumque quatuor aut quinque, aliquando plures e caule aggregatim affurgunt, et in quibusdam caulibus, Perichætia plura aut potius eorum rudimenta occurrunt, e quibus Pedunculi sequente anno probabiliter nascuntur.

PERICHÆTIUM *fig. 3.* aut basis pedunculi, ovatum, foliolis tenuibus pilo longo flexuoso terminatis vestitum. CAPSULÆ five ANTHERÆ *fig. 4.* quæ Semen aut Pollinem continent, incurvatae, ex fusco aurantiacæ. OPERCULUM *fig. 6.* (quod collo capsulæ infigitur, et semine maturescente decedit) breve, et acuminatum. Orificium Capsulæ duplici serie Ciliarum instruitur *fig. 8. 9.* CILIÆ exteriores *fig. 8.* aurantiacæ, divergentes, apicibus aliquando paululum inflexis, et cum aridæ sint fragiles; interiores *fig. 9.* convergentes, membrana reticulata connexæ, ad quam videndam microscopio opus est. POLLEN five SEMEN viride. CALYPTRA *fig. 5.* quæ anthera cum suo Operculo partim tegitur et quæ primum decedit albida est.

**STALKS** from three to nine inches in length, creeping on the ground, and here and there sending forth small brown fibres, but very often so intricately connected together as to be hindered from creeping, thinly covered with leaves of an oval pointed shape, having a strong midrib, which runs out to a fine point *fig. 1.* when greatly magnified the surface of these leaves exhibits a granulated appearance *fig. 2.*

**BRANCHES** beautifully pinnated, and bending downward, of a green colour, more or less inclined to yellow, according to its place of growth, and the season of the year, *without any gloss*; the midrib of the same colour with the leaves and generally thicker at its extremity; the small leaves, laying one over another, and scarce discernible to the naked eye. From the middle of the branch or Frond most commonly arises a new stalk, or furculus, by which means this plant is singularly extended and propagated, and from this circumstance it acquires the name of *Proliferous*.

**PEDUNCLES** about an inch and a half in length, of a bright red colour, generally about four or five, sometimes more, spring from the stalk nearly together, in some of the stalks there is the appearance of several *Perichætia* without peduncles, which probably arise from them the next year. The PERICHÆTIUM *fig. 3.* which is the base of the peduncle, is of an oval shape, and covered with small leaves which terminate in a long flexible point. The CAPSULES or ANTHERÆ containing the pollen or seed *fig. 4.* are incurvated, and of a brown orange colour. The OPERCULUM *fig. 6.* (which sits on to the top of the Capsule, and when the seed contained within it, is ripe, falls off) is short, and pointed; the mouth of the Capsule has two rows of CILIÆ *fig. 8. 9.* the exterior row *fig. 8.* orange coloured, and diverging, the tops of them sometimes bending a little inward, and brittle when dry, the interior row *fig. 9.* converging, of a membranous texture, and when very much magnified, appearing reticulated. The POLLEN or SEED contained within the Capsules is green. The CALYPTRA *fig. 5.* which partly covers the anthera and operculum, and firsts drops off is of a white colour.

There is scarce a Wood in the environs of this City, on the borders of which this elegant species of Moss doth not occur.

It produceth its fructifications from December to February; in this state however it is but seldom met with, yet may be found by diligent searching. Linnæus in one of his journies through Sweden, observed this Moss growing in the thickest Woods, obscured with perpetual shade, and where all other plants perished.

Most of the writers who have made this class of plants more particularly the object of their enquiries, have generally made two distinct Genera of the Hypnum and Bryum, yet so great is the affinity betwixt them, and so much do they run into one another, that what some of these Authors call a Bryum, others denominate a Hypnum; indeed this division seems adopted more to facilitate the investigation of the plants of this numerous family, than from any real natural division which takes place between them. The difference between some of the Hypnums and some of the Bryums is obvious to almost every one, but to ascertain the limits where the one begins and the other terminates, seems a task too difficult for the most accurate Botanist.

The principal Characteristics of a Bryum according to Linnæus, are, that the peduncle which sustains the Anthera or Capsule, grows out of the top of the furculus or stalk, and is furnished at its base with a little naked tubercle or bulb; in the Hypnum on the contrary, the peduncle grows out of the side of the stalk and the tubercle at its base is covered with leaves and called a Perichætium,

*Hypnum Proliferum.*







# I N D E X I.

In which the Plants contained in the Fourth Fasciculus are arranged according to the System of LINNÆUS.

Latin Name.		Class and Order.
1 Hippuris vulgaris	— — —	MONANDRIA Monogynia.
2 Veronica montana	— — —	DIANDRIA Monogynia.
3 Valeriana dioica	— — —	TRIANDRIA Monogynia.
4 Scirpus maritimus	— — —	
5 Panicum viride	— — —	
6 Panicum verticillatum	— — —	
7 Panicum sanguinale	— — —	
8 Panicum crus galli	— — —	TRIANDRIA Digynia.
9 Eriophorum polystachion	— — —	
10 Eriophorum vaginatum	— — —	
11 Holcus lanatus	— — —	
12 Milium effusum	— — —	
13 Scabiosa arvensis	— — —	TETRANDRIA Monogynia.
14 Plantago media	— — —	
15 Asperula odorata	— — —	
16 Cynoglossum officinale	— — —	
17 Menyanthes trifoliata	— — —	PENTANDRIA Monogynia.
18 Symphytum officinale	— — —	
19 Vinca major	— — —	
20 Samolus valerandi	— — —	
21 Campapula rotundifolia	— — —	
22 Chironia Centaurium	— — —	
23 Chenopodium hybridum	— — —	PENTANDRIA Digynia.
24 Bunium Bulbocastanum	— — —	
25 Chærophyllum sylvestre	— — —	
26 Myosurus minimus	— — —	PENTANDRIA Polygynia.
27 Peplis Portula	— — —	HEXANDRIA Monogynia.
28 Polygonum amphibium	— — —	OCTANDRIA Digynia.
29 Polygonum Convolvulus.	— — —	OCTANDRIA Trigynia.
30 Silene anglica	— — —	
31 Arenaria trinervia	— — —	DECANDRIA Trigynia.
32 Arenaria serpyllifolia	— — —	
33 Sedum sexangulare	— — —	
34 Spergula nodosa	— — —	DECANDRIA Pentagynia.
35 Spergula saginoides	— — —	
36 Euphorbia exigua	— — —	DODECANDRIA Trigynia.
37 Clematis Vitalba	— — —	
38 Ranunculus repens	— — —	POLYANDRIA Polygynia.
39 Ranunculus hederaceus	— — —	
40 Galeobdolon Galeopsis	— — —	
41 Stachys arvensis	— — —	DIDYNAMIA Gymnospermia.
42 Prunella vulgaris	— — —	
43 Scutellaria minor	— — —	
44 Orobanche major	— — —	DIDYNAMIA Angiospermia.
45 Antirrhinum Orontium	— — —	
46 Raphanus Raphanistrum	— — —	
47 Turrilis glabra	— — —	TETRADYNAMIA Siliquosa.
48 Cardamine hirsuta	— — —	
49 Geranium pratense	— — —	MONADELPHIA Decandria.
50 Malva moschata	— — —	MONADELPHIA Polyandria.
51 Trifolium glomeratum	— — —	DIADELPHIA Decandria.
52 Hypericum quadrangulum	— — —	POLYADELPHIA Polyandria.
53 Sonchus arvensis	— — —	
54 Hieracium Pilosella	— — —	
55 Arctium Lappa	— — —	SYNGENESIA Polygamia Æqualis.
56 Cichorium Intybus	— — —	
57 Bidens tripartita	— — —	
58 Jasione montana	— — —	SYNGENESIA Monogamia
59 Ophrys spiralis	— — —	GYNANDRIA Diandria.
60 Carex riparia	— — —	
61 Carex acuta	— — —	MONOECIA Triandria.
62 Carex gracilis	— — —	
63 Parietaria officinalis	— — —	POLYGAMIA Monoecia.
64 Equisetum arvense	— — —	CRYPTOGAMIA Filices.
65 Bryum barbatum	— — —	
66 Phascum acaulon	— — —	
67 Phascum subulatum	— — —	CRYPTOGAMIA Musci.
68 Jungermannia complanata	— — —	
69 Agaricus procerus	— — —	
70 Agaricus velutipes	— — —	
71 Agaricus floccosus	— — —	CRYPTOGAMIA Fungi.
72 Boletus lucidus	— — —	
73 Phallus caninus	— — —	



# I N D E X II.

Latin Names of the Plants in the Fourth Fasciculus,  
arranged alphabetically.

	Plate.
Asperula odorata	15
Arenaria trinervia	31
Arenaria serpyllifolia	32
Antirrhinum Orontium	45
Arctium Lappa	55
Agaricus procerus	69
Agaricus velutipes	70
Agaricus floccosus	71
Bunium Bulbocastanum	24
Bidens tripartita	57
Bryum barbatum	65
Boletus lucidus	72
Cynoglossum officinale	16
Campanula rotundifolia	21
Chironia Centaurium	22
Chenopodium hybridum	23
Chærophylum sylvestre	25
Clematis Vitalba	37
Cardamine hirsuta	48
Cichorium Intybus	56
Carex riparia	60
Carex acuta	61
Carex gracilis	62
Eriophorum polystachion	9
Eriophorum vaginatum	10
Equisetum arvense	64
Euphorbia exigua	36
Geranium pratense	49
Galeobdolon Galeopsis	40
Holcus lanatus	11
Hypericum quadrangulum	52
Hieracium Pilosella	54
Hippuris vulgaris	1
Jasione montana	58
Jungermannia complanata	68
Milium effusum	12
Menyanthes trifoliata	17
Myoforus minimus	26
Malva moschata	50
Ophrys spiralis	59
Orobanchæ major	44
Panicum viride	5
Panicum verticillatum	6
Panicum sanguinale	7
Panicum Crus galli	8
Plantago media	14
Peplis Portula	27
Polygonum amphibium	28
Polygonum Convolvulus	29
Prunella vulgaris	42
Parietaria officinalis	63
Phascum acaulon	66
Phascum subulatum	67
Phallus caninus	73
Ranunculus repens	38
Ranunculus hederaceus	39
Raphanus Raphanistrum	46
Scirpus maritimus	4
Scabiosa arvensis	13
Symphytum officinale	18
Samolus valerandi	20
Silene anglica	30
Spergula nodosa	34
Spergula saginoides	35
Sedum sexangulare	33
Stachys arvensis	41
Scutellaria minor	43
Sonchus arvensis	53
Turritis glabra	47
Trifolium glomeratum	51
Veronica montana	2
Valeriana dioica	3
Vinca major	19

# I N D E X III.

English Names of the Plants in the Fourth Fasciculus,  
arranged alphabetically.

	Plate.
ARCHANGEL yellow	40
BRYUM bearded	65
BUCKWHEAT climbing	29
BUCKBEAN	17
BROOM-RAPE common	44
BELL-FLOWER heath	21
BOLETUS lacquer'd	72
BURDOCK	55
CAREX great or common	60
CAREX acute	61
CAREX slender-spiked	62
CLUB-RUSH round-rooted or sea	4
COW-PARSLY common	25
CHICKWEED plantain-leaved	31
CHICKWEED thyme-leaved	32
CATCH-FLY English	30
CRANES-BILL crowfoot	49
CROWFOOT ivy-leaved	39
CROWFOOT creeping	38
CENTAURY	22
COMFREY	18
COTTON-GRASS many-headed	9
COTTON-GRASS single-headed	10
EARTH-NUT	24
GOOSE-FOOT thorn-apple-leaved	23
HOUNDS-TONGUE	16
HOODED-WILLOW-HERB small	43
HORSE-TAIL corn	64
HEMP-AGRIMONY trifid	57
JUNGERMANNIA flat	68
LADIES-SMOCK hairy	48
LADIES-TRACES	59
MOUSE-TAIL	26
MOUSE-EAR	54
MARES-TAIL	1
MUSHROOM shaggy	71
MUSHROOM velvet-stalked	70
MUSHROOM tall	69
MILLET-GRASS wood	12
MALLOW musk	50
MORELL red-headed	73
PURSLANE water	27
PHASCUM common	66
PHASCUM heath	67
PANIC-GRASS green	5
PANIC-GRASS rough	6
PANIC-GRASS loose	8
PANIC-GRASS cocksfoot	7
PLANTAIN hoary	14
PERSICARIA amphibious	28
PERRYWINKLE great	19
PELLITORY of the wall	63
RADISH wild	46
SPEEDWELL mountain	2
ST. JOHN'S-WORT square-stalk'd	52
SELFHEAL	42
SOFT-GRASS meadow	11
SNAP-DRAGON small	45
SCABIOUS field	13
SOWTHISTLE corn	53
SPURRY knotted	34
SPURRY pearlwort	35
STACHYS corn	41
SPURGE small	36
SHEEPS-SCABIOUS hairy	58
SUCCORY blue	56
TWECROP infipid.	33
TOWER-MUSTARD smooth	47
TRAVELLERS JOY	37
TREFOIL round-headed	51
VALERIAN-marsh	3
WOODRUFF	15
WATER-PIMPERNEL round-leaved	20







INDEX TO PLATES FROM CURTIS: FLORA LONDINENSIS

TITLE	PLATE	VOLUME
Agrimony	32	5
Agrostis Sheep's fescue-leaved	12	6
Aira sweet tafted water	5	1
Allfeed	17	2
All heal	35	3
Anemone, mountain	35	6
Anemone Wood	38	2
Arhangel, yellow	40	4
Avens, common	36	2
Barley-Grass wall	9	5
Bastard - Bolm	39	6
Bedstraw, Yellow	13	6
Bell-Flower, heath	21	4
Betony wood	33	3
Bird's-eye	14	6
Bird's-foot, common	53	6
Bird's-foot -Trefoil, common	56	2
Bistort, common	22	1
Blink's	8	3
Blite, stinking	20	5
Blue-bottle Corn	62	6
Boletus, lacquered	72	4
Brome-Grass, barren	9	1
Brome-grass, diandrous	5	6
Brome-grass, hairy stalk'd	8	2
Brome-Grass, soft	8	1
Brome-Grass, tall	7	5
Brook-lime	3	2
Broom, common	31	5
Broom-Rope, common	44	4
Bryum, bearded	65	4
Bryum, broom	69	1
Bryum, brown	70	2
Bryum, curled	70	1
Bryum, Green	71	2
Bryum, awl-shaped	66	3
Bryum, matted	68	3
Bryum, silvery	67	3
Bryum, swan's neck	71	1
Buckbean	17	4
Buckwheat, climbing	29	4
Bugle, common	43	2
Bugloss, field	17	5
Burdock	55	4
Burnet	64	2





INDEX TO PLATES FROM CURTIS: FLORA LONDINENSIS (continued)

Burr-Reed, great	66	5
Burr-Reed, small	67	5
Butter beer	59	2
Calamint, field	40	6
Campion, red	32	2
Carex, acute	61	4
Carex, great or common	60	4
Carex, pendulous	63	3
Carex, slender-spiked	62	4
Carex, turgid	68	6
Catch-Fly, English	30	4
Catstail, broad-leaved	61	3
Catstail, narrow-leaved	62	3
Caucalis corn	23	6
Caucalis hedge	22	6
Centaury	22	4
Chamomile corn	63	5
Charlock	47	5
Chickweed, common	20	1
Chickweed, plantain-leaved	31	4
Chickweed, thyme-leaved	32	4
Cinquefoil, common	37	1
Cistus, dwarf	36	5
Cistus, spotted-flowered	33	6
Clary	1	6
Cleavers, Common	9	2
Clover	47	3
Clover, Dutch	46	3
Clover, yellow	49	6
Club-Rush (round-footed or fea)	4	4
Cockle	27	3
Coltsfoot	60	2
Comfrey	18	4
Convolvulus, field	13	2
Convolvulus, large white	13	1
Corn-marygold	60	6
Corn-Salad	4	5
Cotton-grass, many-headed	9	4
Cotton-grass, single-headed	10	4
Cotton-thistle	57	5
Cow-parsly, common	25	4
Cow-parsley, small	24	6
Cowslip	15	6
Crane's-Bill, crowfoot	49	4
Crane's-bill, dove's-foot common	50	2
Crane's-bill, hemlock-leaved	51	1
Crane's-bill, jagged	45	6
Crane's-bill, mountain	42	3





INDEX TO PLATES FROM CURTIS: FLORA LONDINENSIS (continued)

Crane's-bill, small-flowered	46	6
Crane's Bill, stinking	52	1
Crowfoot, celery-leaved	42	2
Crowfoot, corn	36	6
Crowfoot, creeping	38	4
Crowfoot, ivy-leaved	39	4
Crowfoot, pale-leaved	40	2
Crowfoot, round-rooted	38	1
Crowfoot, upright meadow	39	1
Crowfoot, wood	41	2
Cuckow-pint	65	2
Cymbalaria, Ivy-leaved	45	1
Daisy, common	62	1
Dandelion, common	58	1
Dandelion, deficient	59	6
Dandelion, rough	56	5
Deadly Nightshade	16	5
Dead-Nettle, purple	42	1
Dead-Nettle, white	45	2
Devil's bit	10	3
Dock, broad-leaved	22	3
Dock, curled	20	2
Dock, narrow-leaved	23	3
Dock, sharp-pointed	21	3
Draba, vernal	49	1
Duvale	16	5
Earth-Nut	24	4
Elder, dwarf	18	3
Enchanters-Nightshade, Common	3	3
Erigeron, purple	60	1
Everlasting-Pea, Narrow-leaved	52	6
Eyebright, common	42	5
Eyebright, red	44	1
Fescue-grass, darnel	9	6
Fescue-grass, flote	7	1
Fescue-grass, meadow	7	6
Fescue-grass, tall	8	6
Figwort, water	44	5
Flax, Common	22	5
Flax, purging	19	3
Flax, yellow	4	3
Fleabane, common	56	3
Fleabane, small	57	3
Flowering-Rush	29	1
Fluellin, round-leaved	37	3
Fluellin, sharp-pointed	46	1
Fools-Parsley	18	1
Foxglove, Purple	48	1
Foxtail-Grass, field	7	2
Foxtail-Grass, pointed	6	5
Foxtail-Grass, meadow	5	5
Fritillary, Common	20	3





INDEX TO PLATES FROM CURTIS: FLORA LONDINENSIS (continued)

Frog-bit	64	5
Fumitory, Common	52	2
Fumitory, ramping	47	6
Gallopsis, particloured	38	6
Germander, Sage-leaved	40	5
Golden-Saxifrage, Common	27	2
Good King Henry	17	3
Goosefoot, Nettle-leaved	20	6
Goosefoot, purple-jointed	16	2
Goose-FootThorn-apple-leaved	23	4
Goosefoot, small-seeded	21	6
Goosefoot, white	15	2
Ground-ivy	44	2
Groundsell, common	61	1
Hair-grass, early	7	3
Hair-grass, silver	6	6
Harts-Tongue	67	1
Hawkweed, bushy	58	6
Hawkweed, longrooted	52	3
Hawkweed, small flowered	55	3
Heath, Common	30	5
Heath Cross-leaved	21	1
Heath, fine-leaved	25	2
Hedge-Mustard	50	5
Hellebore, green	34	6
Hemlock	17	1
Hemp-Agrimony Nodding	55	3
Hemp-Agrimony, Trifid	57	4
Henbit	46	2
Honeysuckle, Common	15	1
Hooded-Willow-Herb Common	36	3
Hooded-Willow-Herb (small)	43	4
Horned-Poppy, red	32	6
Horse-Tail Corn	64	4
Hottonia, Water	11	1
Hounds - Tongue	16	4
Houseleek	29	3
Hyacinth, English	18	2
Hydnum ear-picker	68	3
Hypnum, meadow	65	3
Hypnum, proliferous	72	1
Hypnum, silky	69	2
Ivy	16	1
Jangermannia, flat	68	4
Knot-Grass, common	27	1
Ladies-Smock, common	39	3
Ladies-Smock, hairy	48	4
Ladies-Smock, bitter	40	3
Ladies - traces	59	4
Lathyrus, Crimson	51	6
Lettuce, Wild	52	5





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Lily of the Valley	24	5
Lobelia, Acrid	63	6
Loosestrife, purple-spiked	28	3
Loosestrife, Yellow	19	5
Lung-wort fea	18	6
Mallow, common	51	2
Mallow, musk	50	4
Mallow, round leaved	43	3
Mare's-tail	1	4
Marjoram, wild	39	5
Marsh-Marigold	40	1
Mayweed, stinking	61	5
Meadow-grass, hard	4	2
Meadow-grass, procumbent	11	6
Meadow-grass, reflexed	10	6
meadow-grass, rough-stalk'd	6	2
Meadow-grass, smooth-stalk'd	5	2
meadow-grass, water	12	5
Meadow-Sweet	33	5
Medick hop	57	2
Melic-Grass, blue	11	5
Melic-Grass, mountain	4	6
Melic-Grass, Singleflowered	10	5
Mercury, Annual	68	5
Mercury Dogs	65	2
Millet-Grass-Wood	12	4
Mithridate-Mustard	45	5
Money wort	14	3
Moneywort wood	18	5
Morell, red-headed	73	4
Morell, Stinking	72	3
Moschatel, tuberos	26	2
Mouse-ear	54	4
Mouseear-chickweed, broadleaved	35	2
mouseear-chickweed, common	34	2
mouse-ear Chickweed, corn	29	6
Mouse-Ear Chickweed, dwarf	30	6
Mouseear- Chickweed, least	33	2
Mouseear-Chickweed, Marsh	34	1
Mouseear-Chickweed, tetandrous	31	6
Mouseear-scorpion grass	13	3
Mouse-tail	26	4
Mushroom, egg	73	2
Mushroom, fleshy	71	5
mushroom, orange	69	5
Mushroom, oyster	71	3
Mushroom, plaited	70	3
Mushroom, puckered	72	2
Mushroom, shaggy	71	4
mushroom, slimy	69	3
Mushroom, tall	69	4
Mushroom, velvet stalk'd	70	4
Mushroom, verdigris	70	5





INDEX TO PLATES FROM CURTIS: FLORA LONDINENSIS (continued)

Mushroom, warty	72	5
Mustard, white	46	5
Nettle-hedge	34	3
Nettle, great	69	6
Nettle, small	70	6
Nightshade, garden	14	2
Nightshade, woody	14	1
Nipplewort, common	59	1
Oat-grass, tall	6	3
Oat-grass, yellow	5	3
Ophrys, man	66	6
Ophrys, green winged	67	6
Orach, spear-leaved	66	2
Orchis Bee	66	1
Orchis, butterfly	65	6
Orchis, early spotted	62	2
Orchis, great	64	6
Orchis, marsh	65	5
Orchis, meadow	59	3
Orpine	25	3
Oxeye, common	62	5
Ox-tongue	51	3
Panic-grass, cocksfoot	7	4
Panic-grass, green	5	4
Panic-grass, loose	8	4
Panic-grass, rough	6	4
Pansie, wild	65	1
Pea wood	33	1
Pearlwort, Annual	14	5
Pearlwort, procumbent	12	3
Pearlwort, upright	12	2
Pellitory of the Wall	63	4
Peloria	41	6
Penny-cress	43	6
Penny-wort, marsh	19	6
Perrywinkle, great	19	4
Periwinkle, small	16	3
Persicaria, amphibious	28	4
Persicaria, biting	26	1
Persicaria, small and creeping	28	1
Persicaria, spotted leaved	23	1
Persicaria, spotted stalk'd	25	1
Persicaria, paleflowered	24	1
Phacum, common	66	4
Phacum, heath	67	4
Pheasant's-eye	37	2
Pilewort	39	2
Pimpernel, bastard	11	3
Pimpernel, bog	15	3
Pimpernel, common	12	1
Pink, meadow	33	1
Plantain, common	11	2
Plantain, hoary	14	4
Plantain, narrow-leaved	10	2





INDEX TO PLATES FROM CURTIS: FLORA LONDINENSIS

Poa, common dwarf	6	1
Padded-mouseear	49	2
Polypody, common	68	1
Polytrichum, dwarf	68	2
Pondweed, curled	15	5
Poppy long prickly-headed	38	5
Poppy, long smooth-headed	37	5
Poppy, smooth round-headed	32	3
Prenanthes	58	5
Prim	1	5
Primrose	16	6
Privet	1	5
Purslane, water	27	4
Radish, wild	46	4
Ragwort, hoary	64	5
Robert, herb	52	1
Rocket, London	48	5
Rocket, Stinking	38	3
Rocket, water	41	3
Rock-cress	42	6
Rose dog	34	5
Rush, great hoary wood	26	5
Rush, hairy field	19	2
Rush, small hairy wood	25	5
Sage, wild	1	6
St. John's Wort, Common	57	1
St. John's Wort, Hairy	49	3
St. John's Wort, Small Upright	56	1
St. John's Wort, square stalk'd	52	4
St. John's Wort, trailing	50	3
Sauce-alone	48	2
Saxifrage, Marsh	26	6
Saxifrage, Purple	27	6
Saxifrage, rue-leaved	28	2
Saxifrage, white	30	1
Scabious, field	13	4
Scandix, rough-seeded	19	1
Selfheal	42	4
Sheeps-Scabious-hairy	58	4
Shepherds-Needle	21	5
Shepherd's-Purse	50	1
Sherardia, field	13	5
Silver-weed	31	3
Snap-Dragon, small	45	4
Sneesewort	60	5
Snowflake, Summer	23	5
Soft-Grass Creeping	8	5
Soft-Grass, Meadow	11	4
Sopewort	29	2





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Sorrel sheeps	29	5
Sowthistle, common	58	2
Sowthistle, Corn	53	4
Sowthistle tree	59	5
Spearwort, small	37	6
Speedwell, bog	3	5
Speedwell, germander leaved	2	1
Speedwell, ivy-leaved	1	2
Speedwell, male	1	3
Speedwell, mountain	2	4
Speedwell, procumbent Garden	1	1
Speedwell, smooth-leaved	3	1
Speedwell, trifid	2	6
Speedwell, wall	2	2
Speedwell, water	2	5
Spleenwort, rough	67	2
Spurge, fun	33	1
Spurge, small	36	4
Spurge, small garden	35	1
Spurrey Corn	31	5
Spurry, knotted	34	4
Spurry, pearlwort	35	4
Squill, Autumnal	25	6
Stchys Corn	41	4
Stickwort, bog	28	6
Stickwort, Greater	30	2
Stonecrop, common yellow	32	1
Stonecrop, insipid	33	4
Stonecrop, thick-leaved	26	3
Stonecrop, white flowered	31	1
Strawberry, barren	30	3
Succory, blue	56	4
Succory Hawkweed, smooth	55	5
Teasel, Small	10	1
Teasel, wild	9	3
Thistle, cursed	57	6
Thistle, marsh	56	6
Thistle, milk	54	3
Thistle, prickliest	54	6
Thistle, slender-flowered	55	6
thornapple	17	6
Thyme, basil	43	1
thyme, wild	47	2
Tine-Tare, rough-padded	54	1
Tine-Tare, smooth padded	55	1
Toad Flax, common yellow	47	1
Toad-Flax, least	41	5
Tormentil	35	5
Tower-Mustard, Smooth	47	4
Travellers Joy	37	4
Trefoil birds-foot true	53	2
Trefoil, horsefoot	50	6
Trefoil hop	45	3
Trefoil, procumbent	53	5





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Trefoil, rough	48	6
Trefoil, round-headed	51	4
Trefoil strawberry	55	2
Trefoil, subterraneous	54	2
Tutsan	48	3
Twayblade	60	3
Valerian, Marsh	3	4
Valerian, wild	3	6
Vernal-Grass, sweet-scented	4	1
Vervain	41	1
Vetch, tufted	54	5
Vetchling, yellow	44	3
Vetchling yellow	51	5
Violet bog	58	3
Violet dogs	61	2
Violet, hairy	94	1
Violet, sweet-scented	63	1
Water-cress	44	6
Water-horehound	2	3
Water-Pimpernel (round-leaved)	20	4
Water-Plantain, Greater	27	5
Water-Plantain, Starry-headed	28	5
Water-Radish, Annual	49	5
Willow, bitter	71	6
Willow, three-threaded	72	6
Willow-herb, hoary	22	2
Willow-herb wood	24	3
Willow-herb, largeflowered	21	2
Willow-herb, rosebay	24	2
Willow-herb, squarestalk'd	23	2
Woodruff	15	4
Wood-Sorrel	31	2
Yarrow, Common	61	6
Yellow-Rattle	43	5



















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